ARCHITECTURAL RECORD



AUGUST 1957

BUILDING TYPES STUDY 249 : DORMITORIES

Grinnell Sprinklers at Hollins College, Va.



MODERN, AUTOMATIC FIRE PROTECTION FOR CENTURY-OLD BUILDINGS

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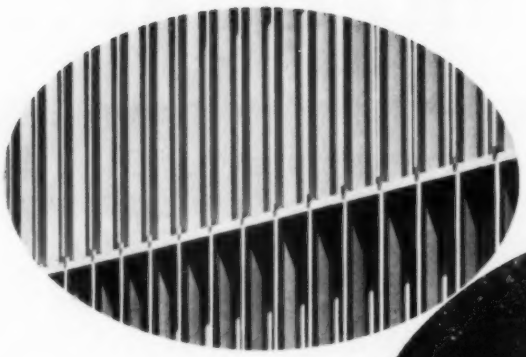


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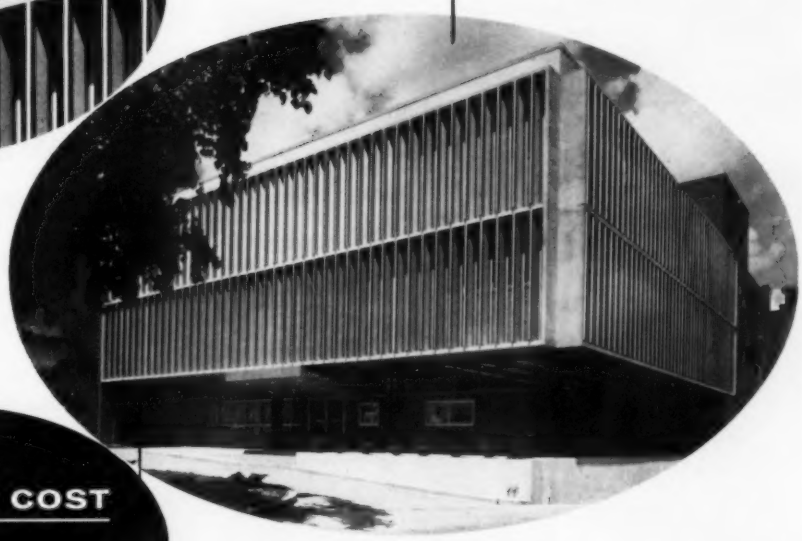
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Manufacturing, Engineering and Installation of Automatic Sprinklers Since 1878

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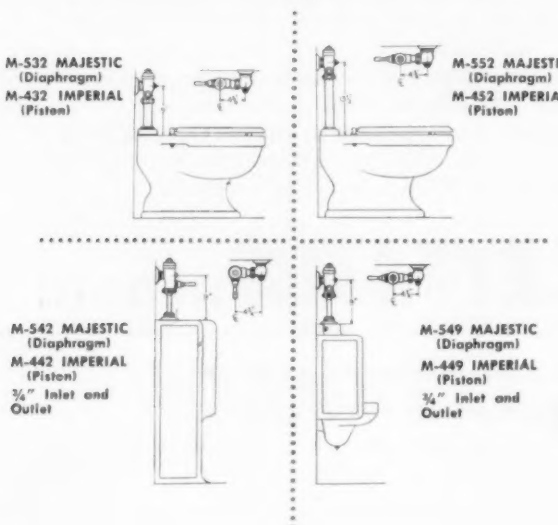
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Imperial Vacuum Breaker can be furnished on all Watrous flush valves. Protects against pollution of pure water supply. Silent operation, positive action.

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Most popular Watrous combination for educational buildings are shown at left. Foot-operated and concealed combinations, as well as all other desired types of installations, also are available.

of washroom economy

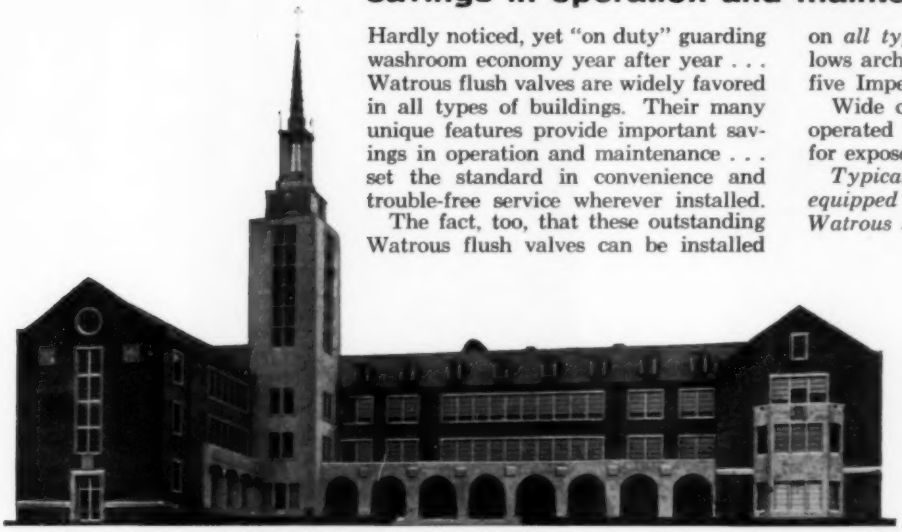
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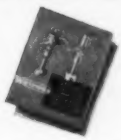
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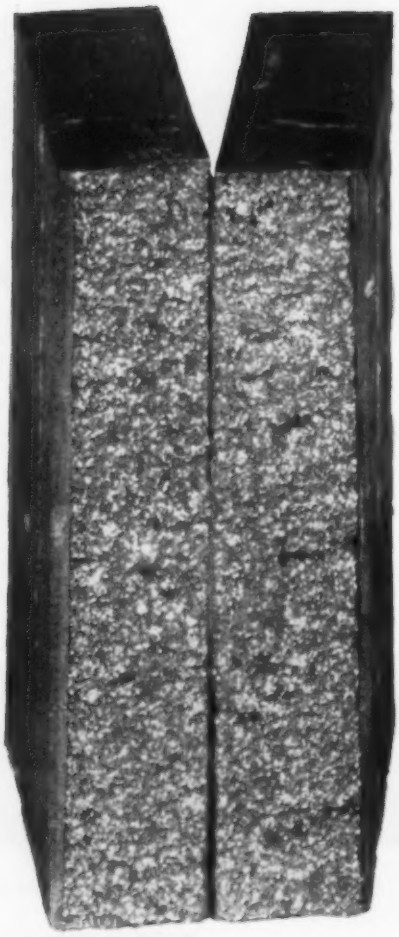


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ARCHITECTURAL RECORD

August 1957 Vol. 122 No. 2

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ARCHITECTURAL RECORD (combined with AMERICAN ARCHITECT and ARCHITECTURE) is published monthly, except May 1957 when semi-monthly, by F. W. Dodge Corporation, 10 Ferry Street, Concord, New Hampshire. Editorial and executive offices: 119 West 40th Street, New York 18, New York. Western editorial office, 2877 Shasta Road, Berkeley 8, California.

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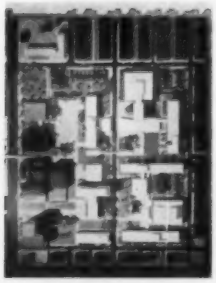
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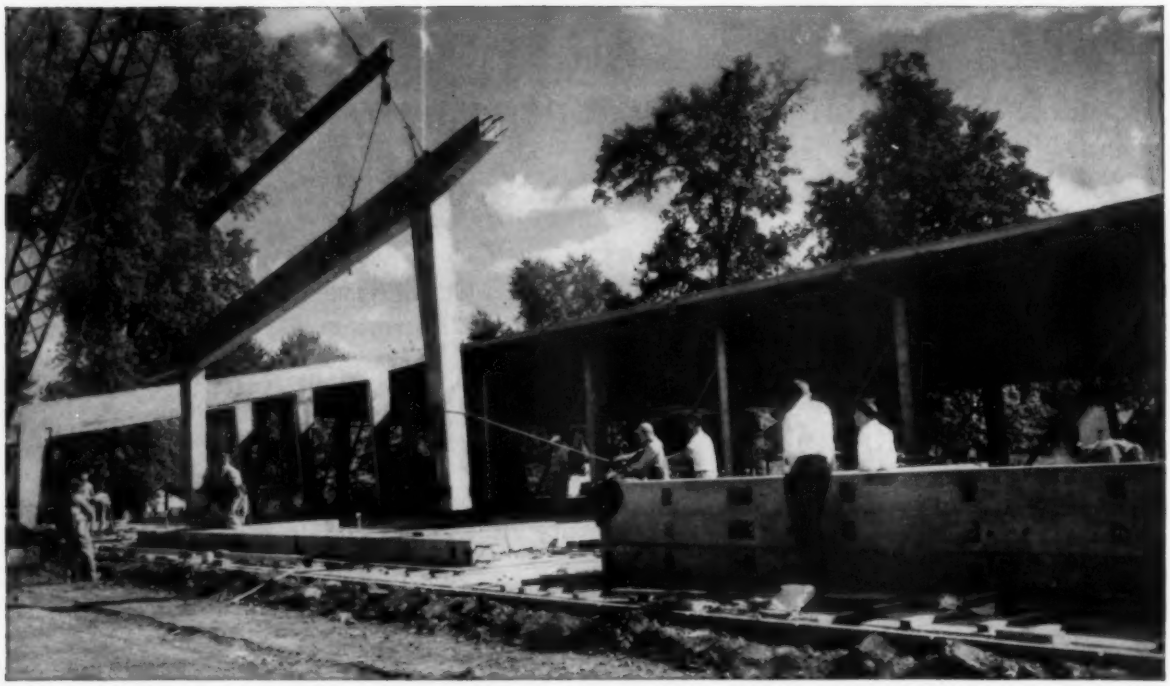
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Every effort will be made to return material submitted for possible publication (if accompanied by stamped, addressed envelope), but the editors and the corporation will not be responsible for loss or damage.

Subscription prices: Published monthly except May 1957 when semimonthy. U. S., U. S. Possessions and Canada: $5.50 per year; other Western Hemisphere countries, Spain, to those who by title are architects and engineers, $9.00 per year. Single copy price except Mid-May 1957 issue $2.00; Mid-May 1957 issue $2.95. Beyond Western Hemisphere, excluding Spain, to those who by title are architects and engineers, $9.00 per year for 12 monthly issues not including Mid-May 1957 issue. Subscriptions from all others outside U. S., U. S. Possessions and Canada for 12 monthly issues, not including Mid-May issue, $24.00 per year. Change of address: subscribers are requested to furnish both old and new addresses, sending if possible stencil impression from magazine wrapper; allow four weeks for change.



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THE RECORD REPORTS

PERSPECTIVES

IMPRESSING ARCHITECTURE: Gropius' design for the new U. S. Embassy in Athens, according to a newspaper caption credited to AP, "will be constructed of glass and aluminum on the outside and classic marble on the inside, *impressing* [italics ours] *modern function and ancient architecture.*"

THE HARRY S. TRUMAN LIBRARY in Independence, Mo., an unobtrusively contemporary building designed by Gentry and Voskamp, appears to please Mr. Truman on every count *but* its architecture, one gathers from reports of the recent dedication of the building. An article by Richard H. Rovere in *The New York Times Magazine* revealed that Mr. Truman's "great regret" about the architecture is "that the building is not Colonial — that is to say, Georgian." On this score the former President was over-ruled by both his architects and the Library's trustees. Mr. Truman, reported Mr. Rovere, "has a monumental and comprehensive contempt for modern art" and sees in his Library "at least a taint of the evil genius of Frank Lloyd Wright. 'It's got too much of that fellow in it for me,' he said."

SELLING THE ARCHITECT: Architects are of three kinds, asserted architect Samuel Kruse of Miami in a recent address before the annual meeting of the Spectra-Glaze Division of the Burns and Russell Company of Baltimore. The "traditional architect," the "natural architect" ("the functionalist who likes to do pleasant buildings within the budget") and the "high style architect" ("he is sensationally traditional, or sensationally new, or sensationally both") have, of course, their philosophical and psychological differences, Mr. Kruse acknowledged, but they also share many characteristics which the manufacturer wanting to "sell" any of them should keep firmly in mind. As listed by Mr. Kruse, they make a pretty good summary of some favorite complaints: "1. All architects are busy and sell personal service. You simply can't steal an architect's time and get away with it. No matter what medium of appeal you use, keep it brief, and, if possible, save him time. 2. All architects like to work with progressive firms, but are suspicious of unfounded claims. They like new colors, new shapes, new products to perform new things or old things in a better way, but they can't afford to gamble their professional judgment on a salesman's recommendation or a slick ad's claim. They need, they seek and you should give them complete information concerning your products which they can analyze and make a valid decision. Your claims, if not obviously beyond dispute, should be substantiated by a recognized testing laboratory. . . . 3. All architects expect full and detailed answers to inquiries. . . . If an architect sends a card, he's interested; don't tease him any more. 4. All architects, as all people, love pictures. But pictures alone will not sell an architect. There must be real substantial stuff along with them. The picture must catch his interest, stimulate his imagination, and make him want your product. . . . I've seen photographs intended to sell a product to esthetically sensitive architects which attempted to show as much of a product as could be squeezed into a picture of a very ugly building. An architect is impressed if a product is used to fit into a building, creating a harmonious and beautiful entity. The quantity of the product used impresses him the least."

SHOULD THE PUBLIC BE TOLD? About architecture, that is, and its (hopefully) more sensational aspects. "Nightbeat," a television program which nightly essays to amuse and edify its New York viewers by interviewing such widely varied types as diplomats and professional gamblers, thought yes, and fell on Philip Johnson, well-known possessor of one controversial glass house and sometime sparring partner of Frank Lloyd Wright. Much was made of both controversies. "Nightbeat" had, providently, called Mr. Wright earlier to be told that Mr. Johnson and his "monkey house" were "a blight on the course of modern architecture." Urged to retort, Mr. Johnson turned the other cheek and reavowed his deep respect for Mr. Wright's accomplishments. As for the house, Mr. Johnson was queried about its threat to Connecticut wild-life (when asked about the lawn strewn with the bodies of birds dashed to death on the glass walls, he answered that "the birds don't die anymore; the word must have got around") and the reactions of visitors to the house (to women who say that the house is very nice but they couldn't ever live in it, Mr. Johnson replies, "Madam, I haven't asked you"). At that, Mr. Johnson probably fared better than the lawyer interviewed on an earlier edition of "Nightbeat" who was asked "What kind of fees do you charge?" And "Isn't that a little excessive?"

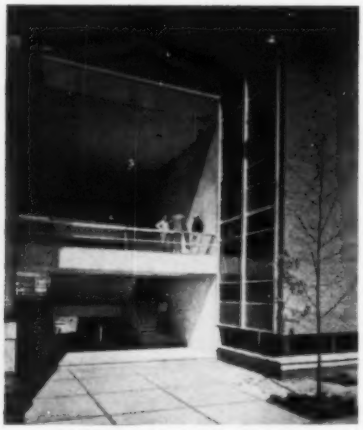
SIX PRINCIPLES for users of prestressed concrete which he easily concedes may also have wider application were enunciated on a recent visit to this country by P. W. Abeles of London, an engineer of some renown and of no mean experience with the material of which he speaks. The six principles, stated by Mr. Abeles as aphorisms, are as follows: 1. You can't have everything. 2. You can't get something for nothing. 3. It's never too late. 4. There is no progress without daring. 5. The proof of the pudding is in the eating. 6. It is not how cheap but how good that matters. In a single summary sentence relating specifically to prestressed concrete he adds, "Either you do it well or you might better not use it."



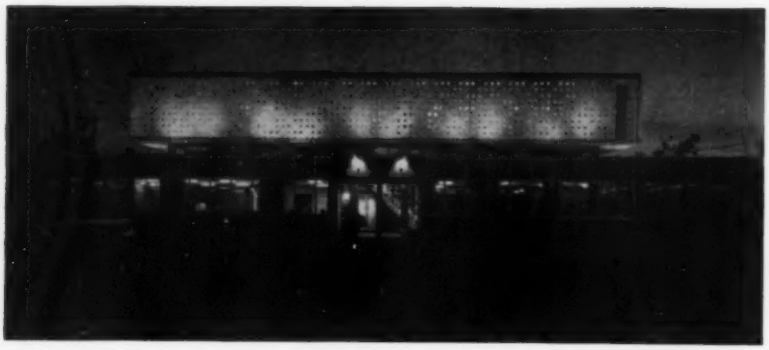


HONOR AWARDS went to the Alpha Epsilon Rho fraternity house (left, above) at Georgia Institute of Technology, Willner and Millkey, Atlanta, architects; and to the Continuing Education Center Building (left, below) at the University of Georgia, Stevens & Wilkinson, Atlanta, architects, in the annual honors program of the American Institute of Architects' South Atlantic District. The awards, made at the South Atlantic regional conference held at Atlanta in April, were selected by a jury composed of chairman John E. Dinwiddie, dean of architecture at Tulane University; architect Louis I. Kahn of Philadelphia; Thomas K. Fitz Patrick, dean of architecture at the University of Virginia; and Philip Will Jr., architect, of Chicago

SIX BUILDINGS CITED IN SOUTH ATLANTIC DISTRICT'S HONORS PROGRAM

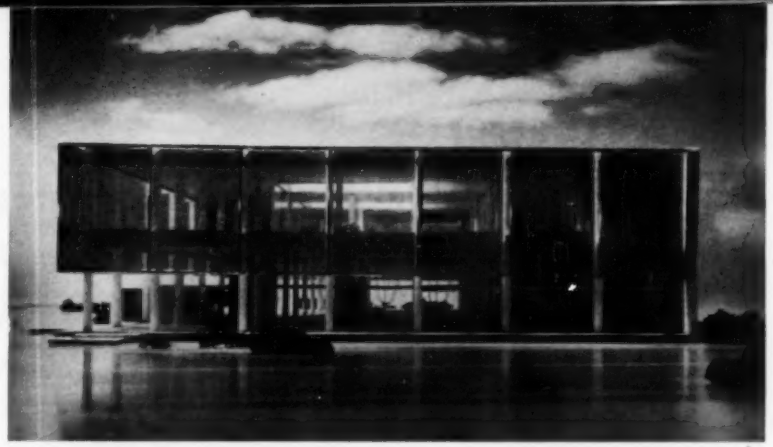






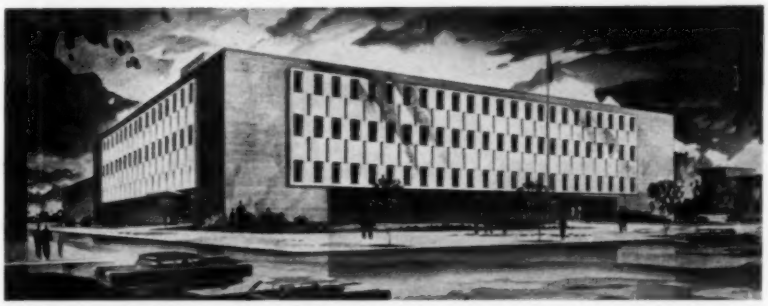


AWARDS OF MERIT were made to the School of Design at North Carolina State College (far left), F. Carter Williams, Raleigh, N. C., architect, and George Matsumoto, Raleigh, consulting architect; the Baptist Professional Building, Atlanta (left), Stevens & Wilkinson, architects; Dade County Medical Association Offices, Miami (below, left), Robert M. Little, Miami, architect; and Bee Ridge Presbyterian Church, Sarasota (below), Victor A. Lundy, Sarasota, architect



CITY OF NEW ORLEANS builds this new public library designed by architects Curtis and Davis. The building has major reading and reference areas on the ground floor, browsing and juvenile rooms on a mezzanine overlooking the reading area, and, on the second main level, the arts and music, professional library and audio visual departments, along with listening rooms, meeting rooms, a multipurpose room and administrative and staff facilities. Estimated cost: $2.7 million

WHAT KIND OF ARCHITECTURE FOR PUBLIC BUILDINGS?



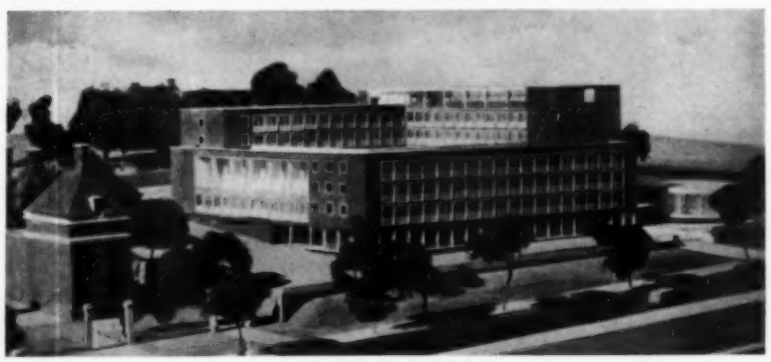
THIS KIND OF ARCHITECTURE for a private commercial client, Warren Petroleum Corporation, in Tulsa, Okla.; Skidmore, Owings and Merrill are architects. Soon to be completed, the building will be occupied solely by Warren's executive offices, providing 150,000 sq ft of floor space. Structure is fireproofed steel, with 36-ft clear spans for the office tower. Sun control will be effected by five-in. overhangs at every floor and sun visors of transparent heat- and glare-resistant glass. Building will be air conditioned

U. S. GENERAL SERVICES ADMINISTRATION has accepted this design for the U. S. Post Office and Courthouse which has been approved for construction under the lease-purchase program in Brunswick, Ga.; architects are Abreu and Robeson, Inc. Besides post office and U. S. Court, six agencies will have space. Cost: $1,431,000



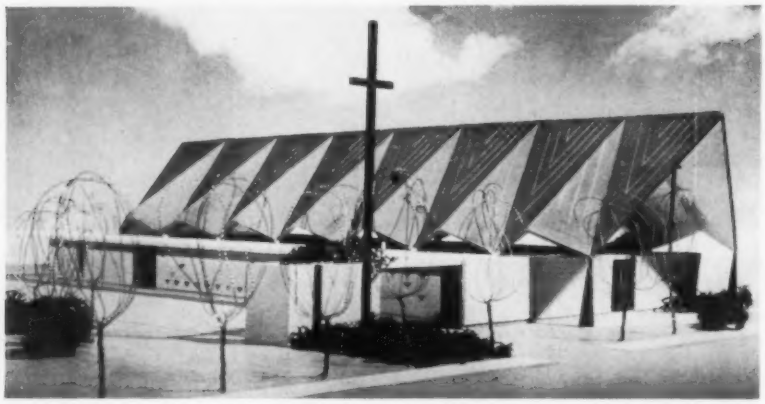


CLARK COUNTY, NEV., plans $4.5 million convention center to be part of this projected civic center estimated to cost $15 to $20 million; Adrian Wilson & Associates, Architects and Engineers, are the designers. Thin shell concrete dome will shelter circular hall 240 ft in diameter; overall building diameter will be 440 ft

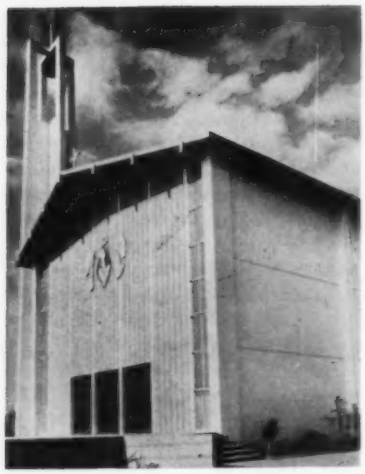


BRITISH GOVERNMENT has announced plans for this new building for the British Embassy in Washington, D. C.; Sir Eric Bedford, the British Government's Chief Architect, is the designer. Estimated cost is $3,220,000. The project will replace a temporary building as complement to main Embassy building, designed by Sir Edwin Lutyens and built in 1930. "Much thought," says the official announcement, "has gone into the problem of evolving a proper esthetic relationship"

(Continued from page 11)



Immaculate Conception Church (above), Marrero, La.; Curtis and Davis, Architects (churches seating over 400, approved or under construction). Right: Church of the Nativity, El Monte, Cal.; Chaix and Johnson, Architects (seating over 400)



13 ARCHITECTURAL AWARDS GIVEN FOR CATHOLIC INSTITUTIONS



Our Lady of Sorrows School, White Plains, N. Y.; McCoy and Blair, Architects (elementary school for no more than 400, design approved or under construction)



St. Ignatius Parish Group, Sacramento, Cal.; Harry J. Devine, Architect (complete parish plant, including church, rectory, elementary school, convent, parish activities space)



Mater Christi School, North Riverside, Ill.; Belli and Belli, Architects (elementary school for no more than 400 and completed since 1951)

Five Plaque Awards (shown on this page) and eight Distinctive Design Awards were made in this year's third annual architectural competition in Catholic institutional design sponsored by the magazine *Catholic Property Administration*. Jury for this year's competition included: Rev. Richard Douair, Riverdale, Ill.; Prof. Robert Blakeslee, head, Department of Architecture, University of Detroit; Barry Byrne, A.I.A., Evanston, Ill.; John J. Flad, A.I.A., Madison, Wis. Professional adviser was Frank Montana, A.I.A., architectural head at Notre Dame.

Distinctive Design Awards went to:

Church seating more than 400 and completed since 1951 — St. Agnes Church, Phoenix, Ariz., Weaver and Drover, Architects.

Church seating more than 400, design approved or under construction — St. Andrew Church, Detroit, Walter J. Rozycki, Architect; St. Ignatius Church, Harry J. Devine, Architect.

Elementary school accommodating no more than 400 and completed since 1951 — St. Patrick School, El Paso, Tex., Carroll and Daeuble, Architects; Sacred Heart School, Bryan, Conn., J. Gerald Phelan, Architect.

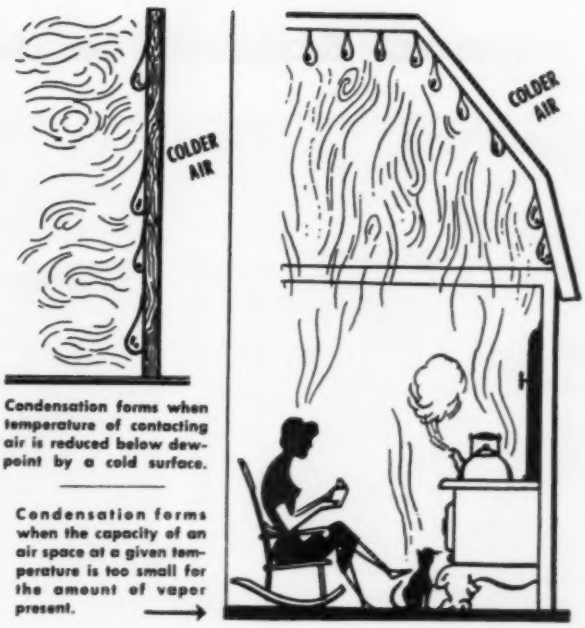
Elementary school accommodating no more than 400, design approved or under construction — Holy Rosary Parochial Elementary School, Jacksonville, Fla., Boardman, Ewart and Meehan, Architects; Our Lady of Perpetual Help School, Pelham Manor, N. Y., Edward Fleagle, architect.

Complete parish plant — St. Michael School, Greenville, Pa., P. Arthur D'Orazio, Architect.

(More news on page 21)

How to Reduce CONDENSATION!

Prevent Damage to Wood, Plaster, Paint, etc.



Condensation forms when temperature of contacting air is reduced below dew-point by a cold surface.

Condensation forms when the capacity of an air space at a given temperature is too small for the amount of vapor present. →

As air becomes colder, it can hold less vapor in suspension. The degree of saturation increases until a dew-point is reached and condensation occurs.

Heat flows from warm to cold by conduction. A material in contact with air colder than itself on one side, warmer than itself on the other side, will *continuously* extract heat from the warmer air by conduction and lose it to the colder air. As the contacting warmer air becomes cooler, the amount of vapor it can hold in suspension without condensing becomes smaller.

The denser and bulkier the material, the more heat it can extract before attaining room temperature, if it *ever* does. The scientific construction of multiple layers of aluminum and air spaces minimizes condensation formation on or within this type of insulation.

THE REASON CONDENSATION IS MINIMIZED

Since the first layer of aluminum adjacent to the warm, inner air of a building weighs only about ¼ oz. per sq. ft., it does not need to extract much heat from that air to attain and remain at room temperature. The emissivity of the aluminum surface is only 3%, so little heat is lost by radiation. This helps the aluminum to remain at about room temperature and not extract much heat from that warmer air.

The other sheets of aluminum and fiber retard heat flow by inner as well as outer convection, and conduction is slight through the preponderant low density air spaces. So the aluminum's other surface faces a space colder than the aluminum itself. Because warmth flows to cold in conduction, the aluminum will *give off a slight* amount of *heat* to the colder space, slightly *increasing* the vapor retaining capacity of that space. The successive reflective spaces and layers of aluminum behave similarly. Since each aluminum surface is slightly warmer than the air it faces on its cold side, no heat is extracted from the colder air; *the reverse is true.*

CONTINUOUS VAPOR BARRIER

When *scientific*, joist-to-joist multiple aluminum is used, fortuitous vapor and water (like rain) which intrude into exterior building spaces will, as vapor pressure develops therein, gradually flow out as vapor, through exterior walls and roofs because vapor flows from areas of greater to less density. The vapor, unable to back up through the long, *continuous, almost impervious* aluminum, will flow out, because exterior walls and roofs have substantial permeability in comparison with aluminum, far greater than the required 5 to 1 ratio. Infiltration under its flat stapled flanges is slight.

The U. S. Bureau of Standards has prepared a helpful and informative booklet, "Moisture Condensation in Building Walls," which deserves your attention. Use the coupon to get a free copy from us.

THERMAL VALUES
Infra Type 4 Parallel Insulation

Down-Heat C .042*=7⅛" non-metallic insulation†
Up-Heat C .105*=3⅛" non-metallic insulation†
Wall-Heat C .068*=4¾" non-metallic insulation†

Cost installed between wood joists, material and labor, about 8¢ sq. ft.

Type 6 also available

Can be purchased everywhere through your preferred local dealer.

*Determined by method of National Bureau of Standards in H.H.F.A. Research Paper 32.
†Calculated on basis of limiting thermal values cited in Fed. Specs. LLL-I-321b; HH-I-585; HH-I-521c; HH-I-551a.

Infra Insulation Inc., 525 Broadway, N.Y.C. Dept. 162.
Please send National Bureau of Standards Booklet BMS63.

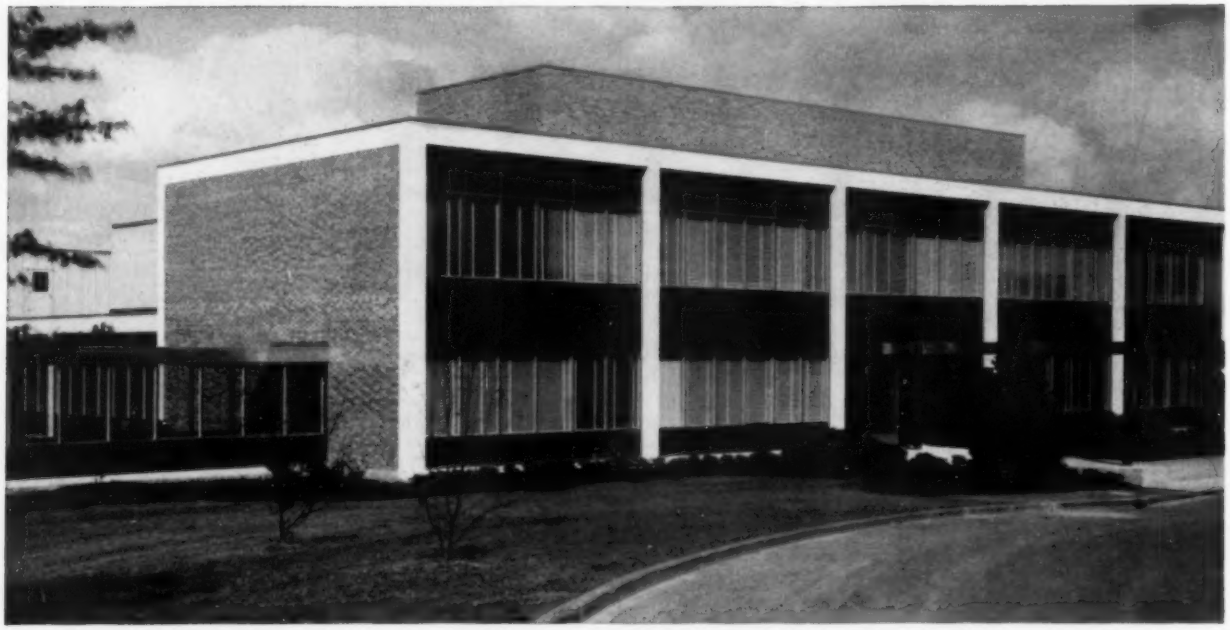
NAME_____

FIRM_____

KIND OF BUSINESS_____

ADDRESS_____

National Carbon Company Research and Solex® Heat-Absorbing Glass to





The graceful, modern appearance of this new structure is immediately apparent in this exterior view of the front. Here, the full effect of the SOLEX and SPANDRELITE curtain wall is completely realized.

Your Sweet's Architectural File contains detailed information on all Pittsburgh Plate Glass Company products—Sections 7a, 13e, 16d, 21.

Design it better with **PITTSBURGH GLASS**

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS · FIBER GLASS

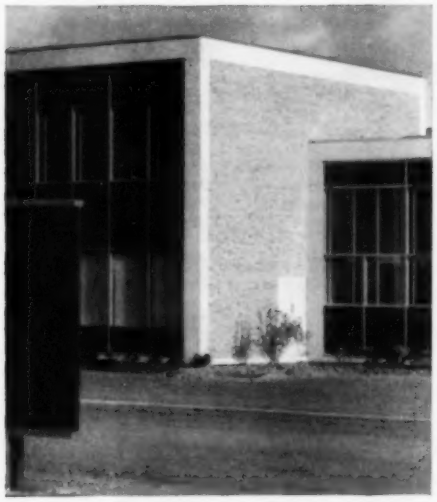
PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Laboratory is clad with Spandrelite® help achieve an outstanding structure



This building, housing the Research Laboratories of the National Carbon Company at Parma, Ohio, combines *Pittsburgh's* SOLEX Heat-Absorbing, Glare-Reducing Plate Glass and SPANDRELITE —the new *Pittsburgh* heat-strengthened glass which can be supplied in an almost unlimited variety of fused-on, ceramic colors—to give this structure color, beauty and functional values. All walls of this building are "glass clad." Additionally, PITTCO® Premier Metal, Pittsburgh Paints and interior mirrors made from Pittsburgh Plate Glass were basic to the architectural plan. Architects: Skidmore, Owings & Merrill, New York City.



This view shows the SOLEX wall area in the cafeteria. SOLEX keeps interiors more comfortable by reducing solar glare and heat entering a building.



FIRST REPORT ON NEW SURVEY:

COLLEGES PLAN TO SPEND $5.5 BILLIONS ON BUILDINGS

The enormous potential of future work for architects interested in designing college and university buildings begins to emerge from a vast amount of detailed data being assembled at the U. S. Office of Education of the Department of Health, Education, and Welfare.

An extensive college and university facilities survey is now well into a comprehensive accumulation of information on the immediate past performance and the anticipated activities through 1970 of the higher education institutions in respect to plant improvements. The material is being assembled in stages, analyzed, and results published periodically. A full picture of the building plans of colleges and universities representing 90 per cent of total enrollment in the country is expected in October.

Meanwhile, a true story of actual expenditures for the inclusive years 1951-1955 is already in hand and authorities handling the program in the Office of Education feel that the estimates reported for anticipated construction through 1960 are very firm indeed. As the projections reach into future years, understandably the same degree of credence cannot be placed in the reported plans. All the information being assembled has value for the architect, however.

It now is shown that higher educational facilities valued at $1,791,403,000 were constructed in the initial survey period — 1951 to 1955 inclusive. In this five-year span, $1,103,408,000 was expended on public institution building, and $687,995,000 on private.

The total anticipated for the next five-year term, 1956 through 1960, is placed at $3,668,879,000 — $2,329,383,000 in public and $1,339,496,000 in private. With a careful explanation that the future figures become progressively tentative, officials have compiled a figure of $1,342,403,000 for estimated expenditures in the period 1961 through 1965, and $323,726,000 total for 1966 through 1970.

All these totals, with a sum of $134,763,000 added in for "unknown" years, come to $5,469,771,000.

What kind of buildings are the colleges and universities constructing and planning for their campus expansions? Preliminary survey reports on expenditures from 1951 through 1955 show reporting institutions building 3272 structures at the $1,791,403,000 cost. Instructional types predominated, accounting for 1189 buildings. Residential installations numbered 1031; research, 193; and the catchall "general" category, 859.

In the residence area, married student apartments numbered 51, men's residence halls 390, and women's residence halls 349. Heavy in the general classification (which includes 15 types) were college union or other student centers, which numbered 140 in the five-year period, and "multi-purpose buildings," of which 138 were built.

(It was interesting to note that in the large number of dormitory structures built recently, the higher average cost favored the men's type. The average estimate of cost on the 390 men's residence halls constructed 1951 through 1955 was $626,454, while that for the women's residence halls was $536,240.)

The first questionnaire mailing in the university facilities survey went out to 1891 colleges and universities. There were 1368 returns representing 72 per cent of those canvassed. The enrollment in those submitting data, however, represents 90 per cent of all students in American colleges and universities, Office of Education spokesman said.

Included in the final tabulations will be identification of the type of material used. This was not available at this writing. HEW had asked respondents to signify one of nine categories most descriptive of the planned type of construction: wood frame, wood frame with brick veneer, load-bearing masonry

(Continued on page 334)

PRELIMINARY RESULTS

EXPENDITURES 1951-1955 AND ESTIMATES TO 1970 BY GEOGRAPHIC REGIONS

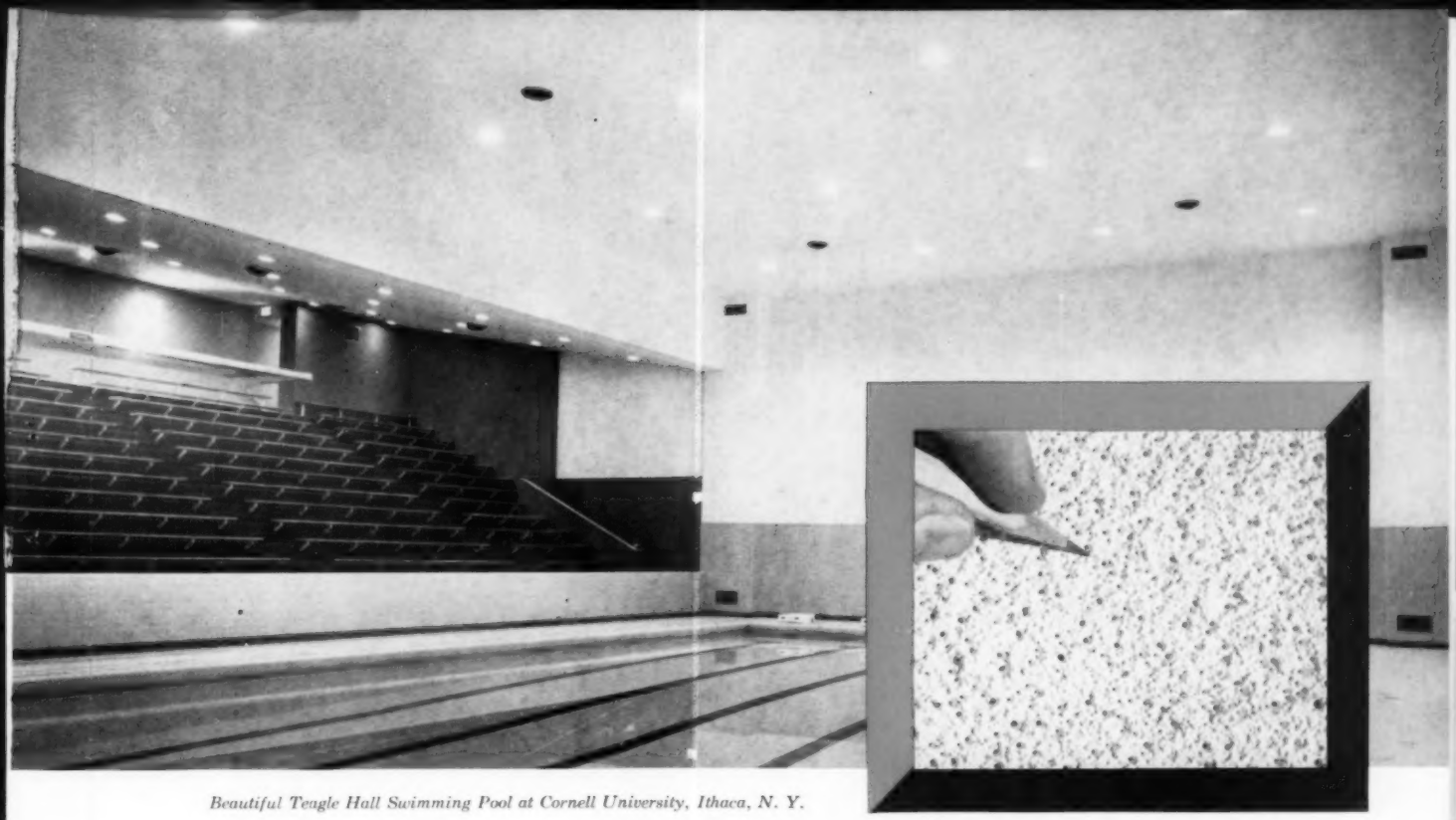
Region	1951-1955	1956-1970
Northeast	$ 447,172,000	$1,349,578,000
North Central	496,909,000	1,648,991,000
South	501,909,000	1,145,983,000
West	325,599,000	1,118,853,000
U. S. Service Academies	13,171,000	178,747,000
Outlying Parts of the U. S.	6,643,000	27,619,000
AGGREGATE U. S.	$1,791,403,000	$5,469,771,000

PRELIMINARY RESULTS

NUMBER OF PROJECTS AND ESTIMATED COSTS BY TYPES—1956-1970

Type	Number	Amount
AGGREGATE U.S.	6333	$5,469,771,000
Total Instructional	2657	2,726,065,000
Educational laboratory	73	49,812,000
Fieldhouse	67	62,573,000
Gymnasium	273	195,034,000
Home management laboratory house	34	5,622,000
Instructional (academic)	1233	1,468,326,000
Library	373	303,304,000
Museum	15	6,395,000
Instructional laboratories	410	347,237,000
Swimming pool	33	8,128,000
Teaching hospital	51	199,606,000
Other instructional	95	80,028,000
Total Research	228	231,641,000
Agriculture	59	35,604,000
Astronomy	6	2,596,000
Biological	18	11,852,000
Chemistry	18	20,533,000
Mathematics and statistics	4	3,800,000
Physics	22	19,721,000
Other physical sciences	21	20,932,000
Social sciences	3	3,500,000
Dentistry	2	550,000
Engineering	33	43,340,000
Medicine	42	69,213,000
Total Residential	1843	1,588,376,000
Faculty apartments	63	26,520,000
Faculty and staff houses	57	19,122,000
Fraternity and sorority houses	22	8,187,000
Hotel-type accommodations	10	10,021,000
Married student apartments	142	154,179,000
Men's residence hall	786	789,590,000
Women's residence hall	745	579,139,000
Other residential	18	1,618,000
Total General	1343	828,077,000
Administration building	154	107,140,000
Armory	34	26,538,000
Auditorium	130	124,619,000
Chapel	104	48,911,000
College union or student center	279	241,691,000
Faculty club and facilities	6	1,815,000
Food facilities	177	78,528,000
Hospital (non-teaching)	7	25,439,000
Infirmary (student health)	78	23,512,000
Multi-purpose	21	12,167,000
Office building	14	9,871,000
Stadium	23	15,260,000
Power and heating plant	83	43,848,000
Other general	195	57,204,000
Auxiliary enterprises buildings	38	11,534,000
Total Campus Improvements	262	95,612,000
Land	55	34,397,000
Landscaping and grounds improvement	21	4,202,000
College parking lots	36	11,750,000
Roads, curbs, walks, and bridges	45	7,747,000
Sewers & sewage plant	18	5,131,000
Utility service extension: heating, power, etc.	67	30,339,000
Other campus improvements	20	2,046,000

(More news on page 18)



Beautiful Teagle Hall Swimming Pool at Cornell University, Ithaca, N. Y.

KILNOISE *Acoustic Plaster*



specified for Cornell University by

Jonathan F. Butler

JONATHAN F. BUTLER A.I.A.
ROGER AND BUTLER, ARCHITECTS
NEW YORK CITY

Complete moisture-resistance was just *one* of the many reasons KILNOISE Acoustic Plaster was specified for the ceilings and walls of Cornell's modern swimming pool shown above. • The high light-reflectivity, excellent sound-absorption and complete fire-retardance of KILNOISE have also found favor with the many leading architects who have discovered KILNOISE to be ideal for interiors of institutions, churches, commercial buildings *and residences as well!* • Still other features you can expect from KILNOISE are its quick cleanability, its easy paintability and, of course, its outstanding decorative possibilities. • For perfect acoustic applications KILNOISE will fulfill your most rigid specifications. *Tiger Products Division of Basic Incorporated, 845 Hanna Building, Cleveland 15, Ohio.*

THE BEST ACOUSTICAL MATERIAL IS **Plaster...** AND THE BEST ACOUSTIC PLASTER IS **Kilnoise**

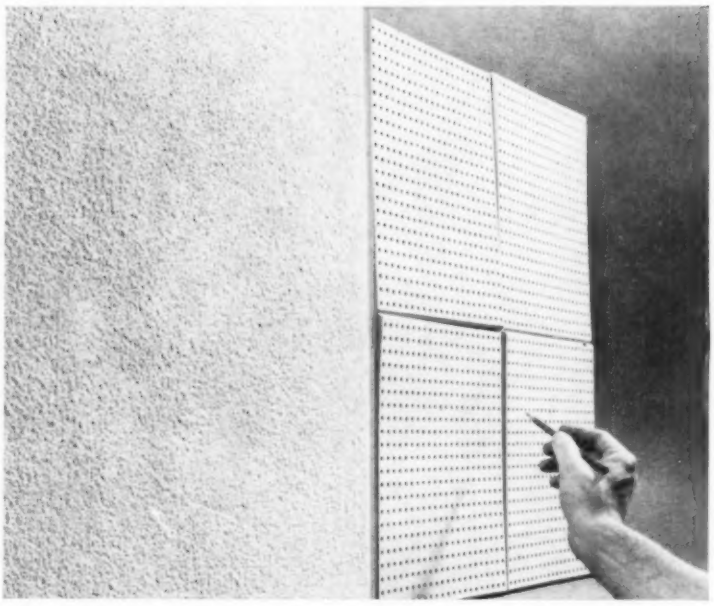


Positive Moisture-Resistance of Kilnoise Guarantees No Warping or Rust Stains

As tests and thousands of applications prove, no amount of moisture can warp KILNOISE . . . ever! Nor will it show rust streaks or crumble . . . even after many *years*.

Thus, KILNOISE is the ideal acoustic material for ceilings and walls in such high-humidity applications as swimming pools, laundries, bathrooms, showers and steam rooms.

Lime-base KILNOISE has a monolithic structure with a hard, durable surface which survives every condition of hard use through the years. Successful installations from mountainous Peru and Colombia to deserts of the Near East attest the remarkable durability of KILNOISE under severest extremes of humidity and temperature.

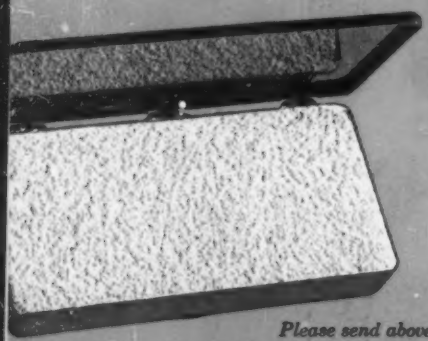


THE BEST ACOUSTICAL MATERIAL IS Plaster . . .
AND THE BEST ACOUSTIC PLASTER IS

KILNOISE®

ACOUSTIC PLASTER

Tiger Products Division of Basic Incorporated, Cleveland 15, Ohio



Please send above **KILNOISE** *sample and full information at no obligation*

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Cleveland 15, Ohio

Don't Overlook These Other KILNOISE *Features!*

Increased Sound-Absorption—Many thousands of tiny interconnected pores render KILNOISE highly sound-absorbent. Stippling and random-perforating the surface provide a high noise reduction coefficient of .60.

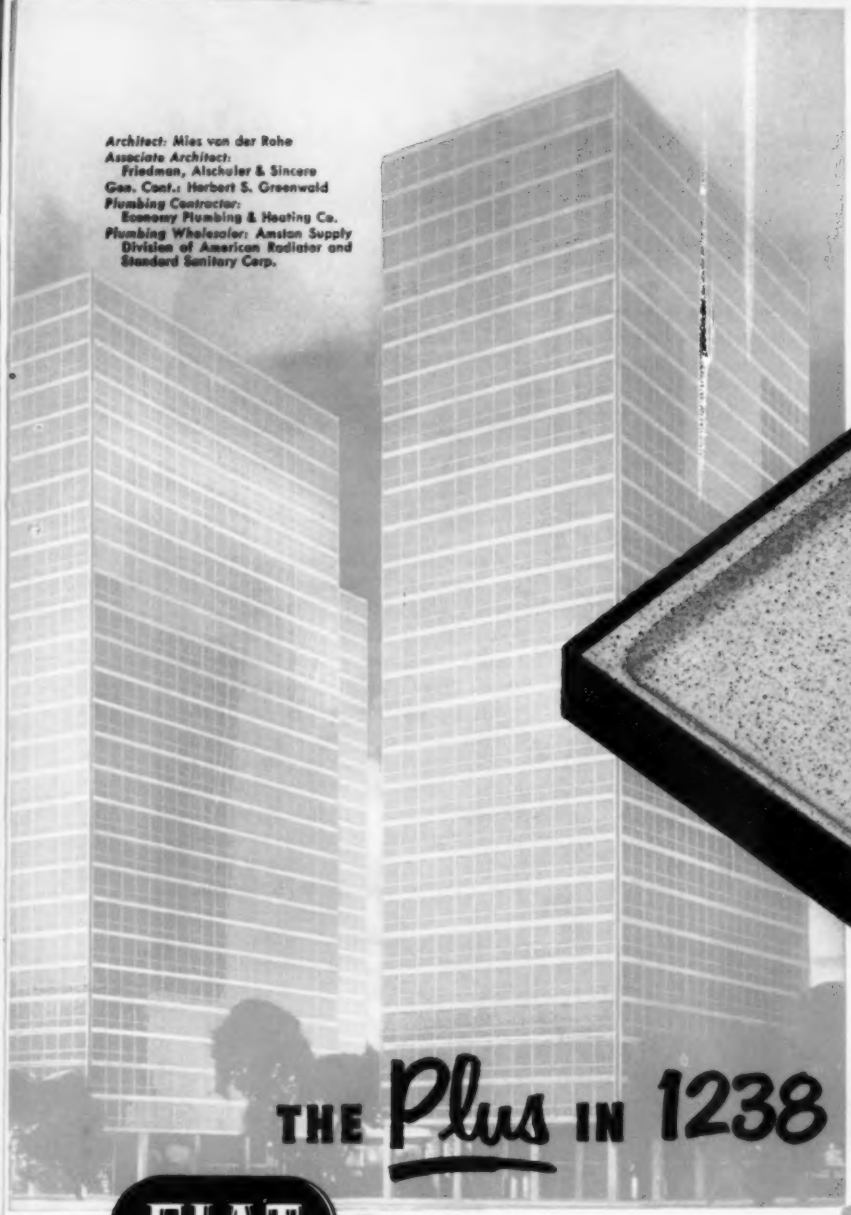
Complete Fire Safety—KILNOISE is an all-mineral acoustic plaster. It is one-hundred-per-cent non-combustible . . . and a positive fire barrier.

Maintenance—KILNOISE acoustic plaster sets monolithically with a hard, durable surface which can be painted (with a water base paint) repeatedly *without materially reducing its sound-absorption qualities!* This surface can be kept constantly attractive by quick, easy cleaning.

More Light Reflectivity—KILNOISE provides light reflection excelling that of most other acoustical materials. This furnishes an extra margin of safety where proper lighting has become an increasingly important factor.

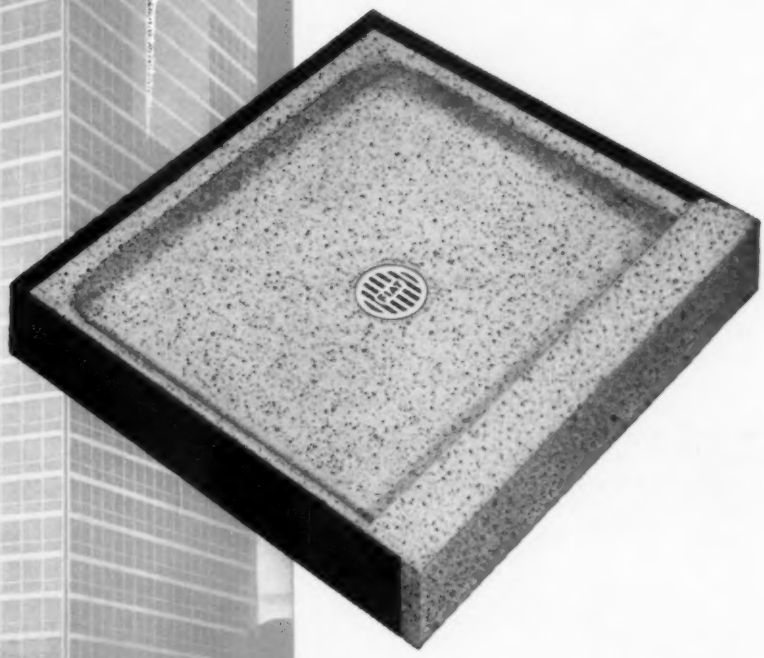
Pleasing Appearance—KILNOISE is a crackless plaster with an interesting, pleasing texture which can be further heightened by relief designs, impressed in the plaster. KILNOISE is fast finding favor with architects for residential applications where appearance is perhaps a more vital factor than in commercial applications.

A.I.A. File No. 39-B



Architect: Mies van der Rohe
Associate Architect: Friedman, Alschuler & Sincere
Gen. Cont.: Herbert S. Greenwald
Plumbing Contractor: Economy Plumbing & Heating Co.
Plumbing Wholesaler: Amston Supply Division of American Radiator and Standard Sanitary Corp.

The new, six building luxury apartment project to be known as 900 Esplanade and Commonwealth Promenade will have FIAT *PreCast Shower Floors in every shower. Added proof that products by* FIAT *set the standards of shower quality.*



THE Plus IN 1238 Plush APARTMENTS

FIAT PreCast SHOWER FLOORS

Only the best is good enough on Chicago's fabulous "Gold Coast"

FIAT Shower Floors permanently answer the problem of shower floor leakage and high costs. Less product cost, less labor cost and less maintenance costs are the benefits of FIAT'S one-piece unit cast in a solid, monolithic slab with genuine marble chips. The FIAT PreCast Shower Floor is simply placed into position and lead caulked to the drain outlet. Once this simple, fast, inexpensive job is completed, the shower wall may then be built of any type material desired; plastic or ceramic tile, marble, plaster or structural glass.

Send for specifications on the complete range of styles and sizes.



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Since 1922...First in Showers / *Packaged Showers • Doors • Floors Toilet Room Partitions*
OTHER COMPLETE PLANTS: Long Island City 1, N. Y.; Los Angeles 63, Calif.; Orillia, Ontario, Canada

"The Architecture of American Colleges"

SCHUYLER'S PLEAS WERE CAMPUS PLANS AND "COMITY"

During the first decade of this century, judging from the number of new buildings mentioned in the RECORD's series on "The Architecture of American Colleges," American campuses seemed to be enjoying a considerable boom in new facilities. Montgomery Schuyler, who authored the series which ran from October 1909 through May 1912, visited more than 35 campuses from Brunswick, Me., to Winter Park, Fla. (though he ventured no farther west than Geneva, N. Y.). In the course of these visits, he found much to be pleased with, but more to be disappointed with.

Schuyler's chief complaints were of omissions — lack of foresight, lack of campus plans, lack of stylistic continuity. And the older the college, he said, the worse the muddle. "The later the foundation of an American College the better chance it has to have architectural interest," he wrote in September 1910, "for it is only of very late that we have discovered that, to be architecturally successful, a college must, first of all, proceed upon a general plan. It must not be subject to the caprices and vicissitudes of passing fashions. . . . Oxford and Cambridge, indeed, may slowly have been aggregated of architectural fashions without destroying, nay, absolutely with increasing their charms, and adding an historical to the esthetic interest, now that all the fashions have taken the tone of time. But that is not our case. There are not half a dozen American college buildings that have any interest that can be decently called historical, and not half the half dozen add any architectural interest that can be decently called architectural. As a rule, the older they are the uglier. And the old European fashions were matters of centuries, at least of generations. Ours are matters of decades.

Harvard, being the oldest of the American colleges, was, Schuyler felt, correspondingly the worst, speaking architecturally. "Neither in ground plan nor in the actual aspect," he said in the first article of the series, "is there anything to be made out but higgledy-piggledy. There is no grouping, there are no vistas. No building borrows any increase of attractiveness from any other, nor lends any to it. There are American colleges, very likely, of which the actual building is more discouraging than that of Harvard, which, indeed, in its oldest examples, is not discouraging at all. . . . But there is none in which the chaotic want of foresight and arrangement in the relations of the buildings renders any real rectification more difficult." If Yale came off better in an assessment of campus planning, most of the credit, Schuyler hinted, was due to its very restricted site in the center of New Haven, which demanded a plan if minimum facilities were to be accommodated.



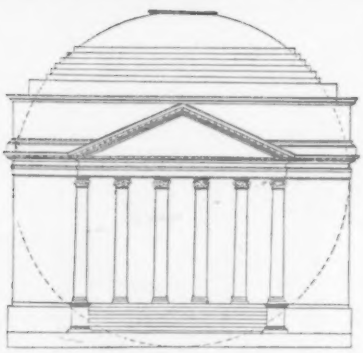
In the beginning: 1726 print of Harvard Yard, illustrating what Schuyler called "the handiwork of the honest bricklayer"

The nearest thing to a perfect college, in Schuyler's estimation, was Jefferson's University of Virginia, which combined the virtues of planning, comity and a "cloistral" atmosphere. Jefferson's idea of an "academical village" was indeed a departure for American colleges at the time, which generally consisted of one building housing dormitories, classrooms and chapel. Schuyler was also impressed with the value Jefferson got for $250,000.

The plans for Trinity College were as satisfactory as those for the University of Virginia, in Schuyler's opinion — or would have been, if Trinity had built the project. It did at least conform to Schuyler's predilection for a Gothic campus — "the most appropriate and attractive architecture for a place of education for English-speaking mankind." Columbia, emphatically, did not have much appeal for the critic, in spite of McKim, Mead & White's splendidly extravagant and highly successful library. Columbia had adopted a "municipal" approach to design for its new

(Continued on page 278)





Two campuses which exemplified good planning, according to Schuyler's lights, were those of Trinity College (above), designed by British architect William Burges in 1873, "the most impressive embodiment in the Western world of the spirit and the charm of Oxford"; and Jefferson's design for the University of Virginia (left, one of Jefferson's drawings for the school), "architecturally vindicated by the appearance of the 'Lawn' today, as it has been practically vindicated by the experience of nearly a century"



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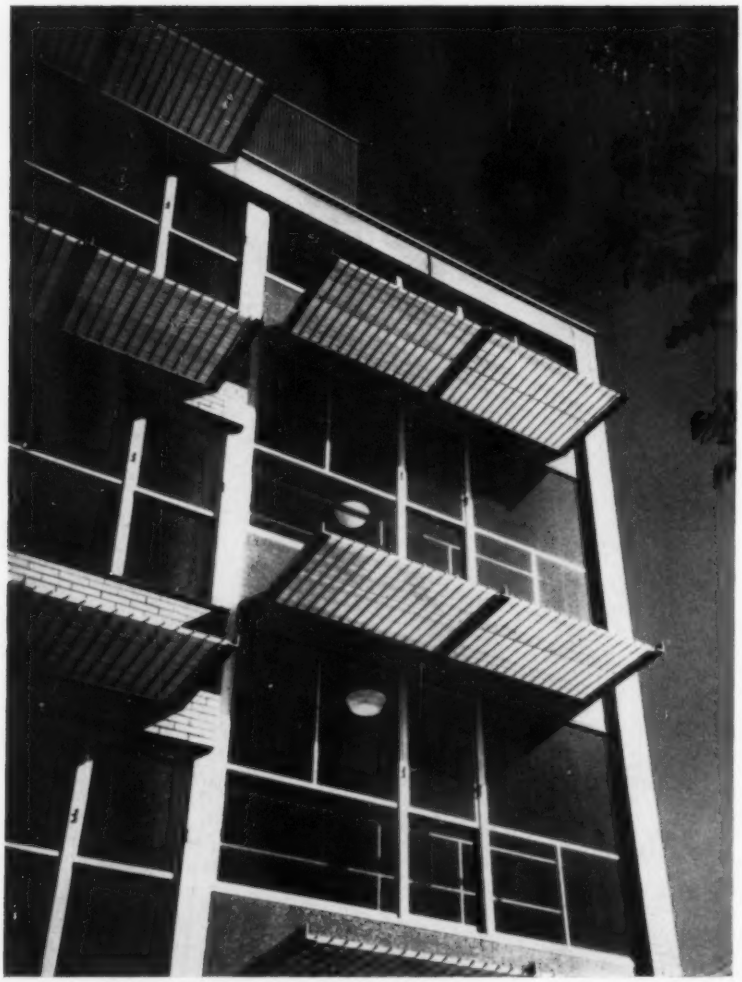
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The State of Construction

The trend was up, when F. W. Dodge Corporation reported the monthly totals for contracts for future construction in the United States in May. The May total of $3,399,528,000 was 14 per cent above the figure for the same month last year; further, for the first time this year, the month's dollar volume of contracts for one- and two-family houses was at the same level as the corresponding month of 1956. Nonresidential construction was 11 per cent above May 1956. Cumulative total for the first five months of 1957 stood at $13,714,529,000 or four per cent above the same period in 1956. For details, see page 342.

Sullivan, Moorman & Harris

A story of public and professional collaboration in the field of architectural preservation emerges from a pleasant letter of correction received by the RECORD last month. A. Moorman & Company of Minneapolis write to say that they were the architectural firm in charge of remodeling the interior of the Security Bank and Trust Company Building, Owatonna, Minn., a building originally designed, as the National Farmers' Bank, by Louis Sullivan. An article by Edgar Kaufmann in the May issue of the RECORD had (page 207) credited the remodeling to H. H. Harris. The Moorman firm explain that after plans were completed "a public spirited group" suggested, "because this building was a shrine in modern architecture," that a consultant be called in to look over the planned work. H. H. Harris was that consultant. "In a spirit of cooperation" A. Moorman & Company agreed to make some of the changes he suggested but "are responsible for the bank layout, general design of the remodeling as well as the working drawings, and supervision and management of the project."



VOORHEES WALKER SMITH & SMITH — The five senior partners of that New York firm snapped at a party given by employes to honor Ralph Walker on his fiftieth anniversary in architectural practice. Left to right: Stephen F. Voorhees; Mr. Walker, holding inscribed crystal bowl which was employes' anniversary gift to him; Perry Coke Smith; Benjamin Lane Smith; and Charles Haines

Schools on "The List"

The list of accredited schools of architecture issued annually by the National Architectural Accrediting Board has expanded by one to a total of 47 schools — the addition is Texas Technological College, on a provisional basis now. Other major changes recorded were the reinstatement of both Harvard and Yale, last year given provisional accreditation. Harvard is now listed also as offering a Bachelor of Architecture degree, where previously it had awarded only a master's degree in architecture; Virginia Polytechnic, which up till this year offered an M.S. in Architecture (though the degree was considered by the N.A.A.B. as equivalent to a bachelor's), now offers a B. Arch. These new degrees leave Princeton the one school which offers only a graduate degree in the field. Included on the new list: Alabama Polytechnic Institute, University of California, Carnegie Institute of Technology, Catholic University, University of Cincinnati, Clemson A. & M. College, Columbia University, Cornell University, University of Florida, Georgia Institute of Technology, Harvard University, Howard University, Illinois Institute of Technology, University of Illinois, Iowa State College, Kansas State College, University of Kansas, Massachusetts Institute of Technology, Miami University, University of Michigan, University of Minnesota, University of Nebraska, North Carolina State College, University of Notre Dame, Ohio State University, Oklahoma A. & M. College, University of Oklahoma, University of Oregon, Pennsylvania State University, University of Pennsylvania, Pratt Institute, Princeton University, Rensselaer Polytechnic Institute, Rhode Island School of Design, Rice Institute, Univer-

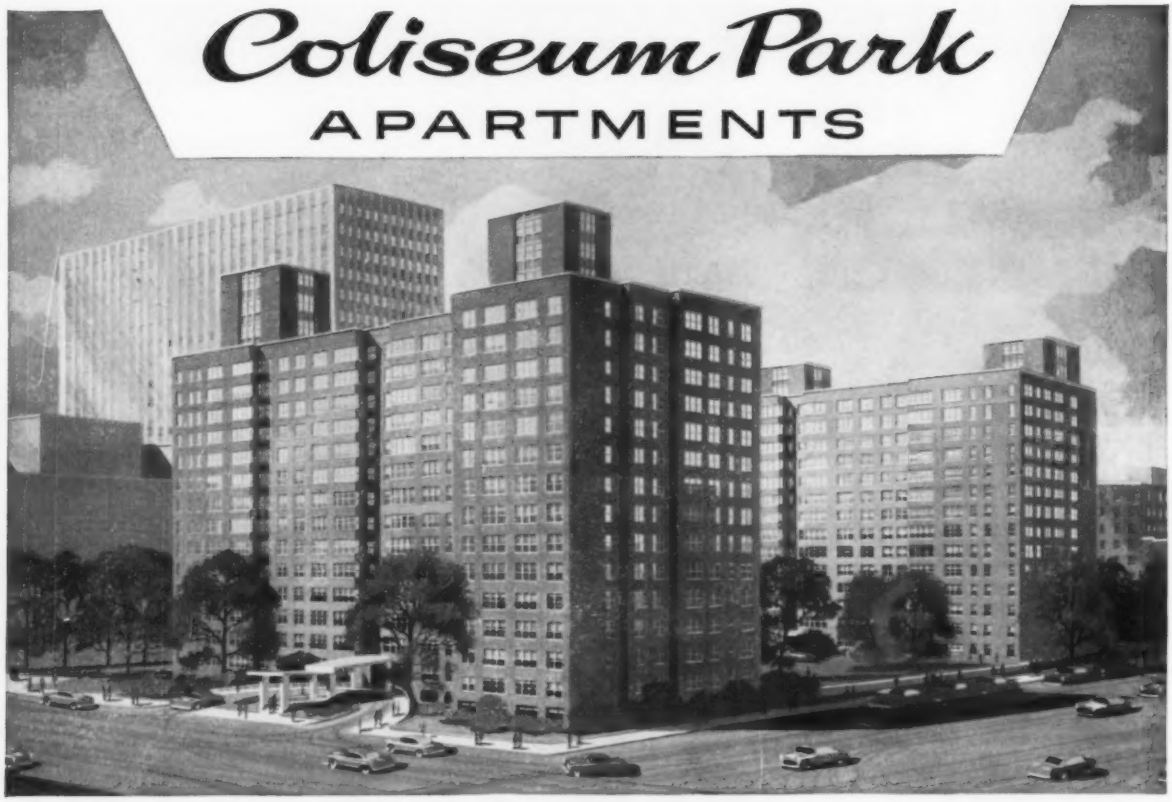
(Continued on page 24)



— Drawn for the RECORD by Alan Dunn

"Just a part of the U. S. technical aid program — a summer home —"

Coliseum Park
APARTMENTS

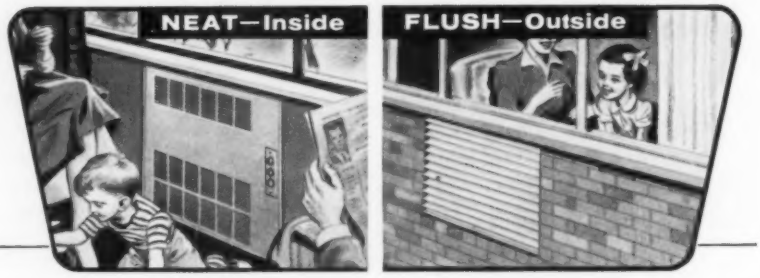


The new Coliseum Park Apartments in New York City are completely air conditioned with 1350 Chrysler's Airtemp Imperial "All-in-wall" units.

Owners-Builders:
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Architects:
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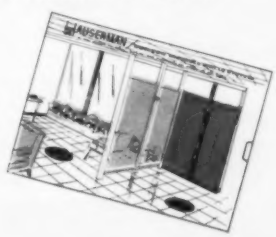
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THE RECORD REPORTS:

MEETINGS AND MISCELLANY

(Continued from page 21)

sity of Southern California, Syracuse University, Texas A. & M. College, Texas Technological College (provisional), University of Texas, Tulane University, University of Utah, Virginia Polytechnic Institute, University of Virginia, Washington University, University of Washington and Yale University.

Main Street 1969 — Hodge-Podge or Harmony?

If any of the talk comes to fruition, there will be lots of work redesigning our cities in the upcoming years. An intense desire to guide town planning in a more humanistic direction was the keynote June 9–12, when Little Rock, Arkansas, and Winthrop Rockefeller as chairman, were hosts for the 1957 National Citizens Planning Conference of the American Planning and Civic Association, co-sponsored this year by more than 60 business and professional organizations, including the Arkansas Chapter of the American Institute of Architects. Gordon Wittenberg, A.I.A., was director of the conference.

What America's main streets should be in 1969 was discussed from an amazing number of viewpoints by men prominent in their fields: businessmen, merchants, industrialists, city-planners, financiers, architects, and city and government officials. 1969 is the scheduled completion year of the 41,000-mile Federal highway program — expected by many to have an impact on towns equivalent to the advent of the railroads. Through a mist of warnings and alarm at present city conditions and the expected explosive growth, a happy, determined optimism was shared by the more than 1000 delegates. An interesting facet of this unanimity was given by David E. Lilienthal, former TVA and AEC chairman: "Today, the businessman's . . . aim is to promote his own special interest by promoting the general welfare. . . ." An air of concreteness was lent by displays of fairly serious schemes for several towns, including (see cuts) Little Rock. Most reflected the belt-highway, downtown pedestrian-way concept, typified by Victor Gruen's Fort Worth plan, which he presented. Edward D. Stone explored the architects position in all this: "We . . . should return to the idea that we are artists" even if "people shy away from the architect who talks glowingly about creating a masterpiece of art."





MAIN STREET 1969 — In exhibit at conference (see story) A.I.A. Arkansas Chapter showed its proposed scheme (photos above and at right) for redevelopment of Little Rock's downtown area (photo below shows Main Street sector as it now is). Little Rock's was one of numerous such proposals on exhibit





Charles Sumner Greene

Charles Sumner Greene, one of the last of a great generation of California architects, died in Carmel on June 11 at the age of 85. With his brother, the late Henry Mather Greene, he had been one of the pioneers of modern domestic architecture, building, as Jean Murray Bangs said in an appreciation of the firm's work, "so conveniently, so graciously, and so without talk that people accepted it hardly knowing what it was" (AR, May 1948). The most significant of the Greene brothers' achievements was the development of the California bungalow, a development which had its beginnings in the 1903 Bandini "patio house" (below, from AR, October 1906), and which utilized particularly regional materials — redwood clapboard and shingles and local stone. They were often pioneers, too, in matters of detail, including in various of their houses storage walls, sectional furniture, folding glass walls and partitions, wide overhangs and flush panel ceiling lights. On a larger scale, they designed such houses as the Gamble residence (below, from the RECORD's Significant Building Series, February 1957). Both brothers had studied at Massachusetts Institute of Technology, then emigrated in 1894 to California, where they practiced together until 1914. In 1952, the American Institute of Architects awarded Greene and Greene a special citation for their "contribution to the shaping of our national architecture."

(More news on page 28)





PIONEERING HOUSES by the Greene brothers, recalled in memory of Charles Sumner Greene, whose recent death is reported in these columns. Left: the Bandini house (1903), forerunner of the California bungalow; right: the Gamble house, selected in the RECORD's recent poll as one of 11 houses built since 1907 of the 50 significant buildings of the last 100 years



This new Armstrong Cushiontone Roof Deck sound-conditions open beam interiors

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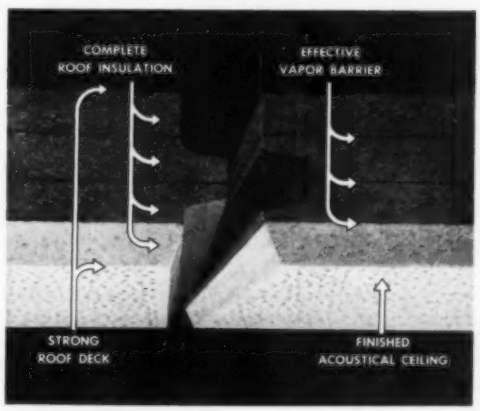
New Armstrong Cushiontone Roof Deck is made up of ½″ layers of asphalt-impregnated fiberboard. The interior surface is pre-finished with two coats of washable white paint. Perforated in the popular Full Random design, it absorbs more than half the noise that strikes the ceiling surface. It's available in easy-to-handle 2′ x 8′ panels, 2″ or 3″ thick.

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Rittenhouse Apartments, Washington, D.C. Architects: Berla & Abel. Contractors: Morris Pollin & Sons. Photograph by Robert C. Lautman.

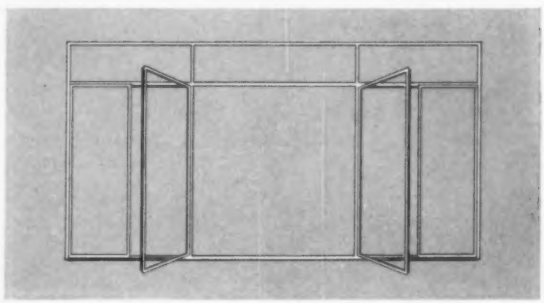
Award-winning apartment building designed with LUPTON aluminum windows

Here is another major apartment building that shows the widespread use by architects of LUPTON aluminum residential windows.

The Rittenhouse Apartments, Washington, D.C., recently received one of the Washington Board of Trade's Biennial Awards in acknowledgment of its part in the advance of modern architecture in the capital city. Selected by a jury of architects, this impressive project makes effective use of standard LUPTON Aluminum Residence Casement Windows.

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THE RECORD REPORTS

MEETINGS AND MISCELLANY

(Continued from page 24)

NEW ENGLAND ARCHITECTS CELEBRATE THE CENTENARY

Members of the New England District of the American Institute of Architects met June 20–21 for their annual conference with a program that made the least of business and the most of a celebratory occasion in the A.I.A.'s centennial year. The only speakers at the meeting, at the centennial banquet, were Edward A. Weeks Jr., editor of *The Atlantic*, and Perry T. Rathbone, director of the Boston Museum of Fine Arts. For the rest, most of the attendees' time was taken up by the annual Boston Arts Festival, along with an afternoon trip to Salem for the MacIntire Bicentennial, assorted parties, an evening of modern dance, and a ball.

The Boston Festival helped celebrate the architects' centenary with two architectural exhibits — its annual awards program for building in the last five years, and a special exhibition, "A Century of New England Architecture."

A three-man jury, composed of architects Ioeh Ming Pei and Samuel E. Homsey and Yale planning professor Christopher Tunnard, selected 13 buildings for the annual exhibit. In addition to the awards shown on this page, they gave awards of merit to the Lincoln-Sudbury Regional High School, Sudbury, Mass., Anderson, Beckwith and Haible, architects; Temple Israel, Swampscott, Mass., Pietro Belluschi and Carl Koch and Associates, architects; Buck House, Manchester, Mass., George W. W. Brewster, architect; Head Island Shelter, South Boston, Griswold Boyden Wylde and Ames, architects; St. Mark's Chapel, University of Connecticut, Storrs, Conn., Huntington and Darbee, architects; Noyes house, New Canaan, Conn., Eliot Noyes, architect (AR, Mid-May 1957, pp. 124–127); Arthur Fiedler Footbridge, Boston, Shepley, Bulfinch, Richardson and Abbott, architects (AR, February 1955, pp. 155–157); Mills House, New Canaan, Conn., Sherwood, Mills and Smith, architects (AR, Mid-May 1957, pp. 176–179); Camp Kirby, West Townsend, Mass., Smith and Sellew, architects; and the Ryder house, Marion, Mass., Hugh Stubbins and Associates, architects.

The 32-panel historical exhibit includes representative New England architecture ranging from tobacco barns through, most recent, Eero Saarinen's auditorium and chapel at M.I.T.



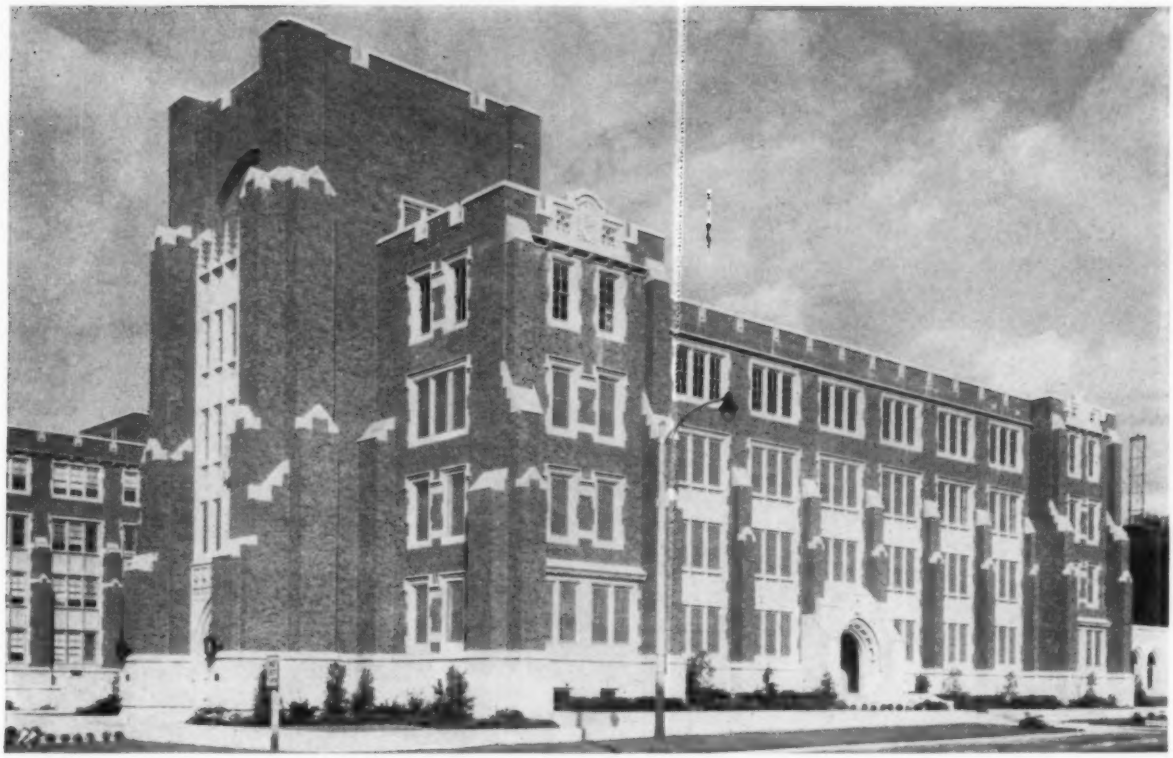
GRAND ARCHITECTURAL AWARD in Boston Arts Festival's annual architectural exhibit went to offices of Boston Manufacturers Mutual Insurance Company and Mutual Boiler and Machinery Insurance Company in Waltham, Anderson, Beckwith and Haible, architects (AR, February 1957, pp. 177–182). Jury's comment: "sensitive planning of both the interior and exterior space and judicious harmony of materials"



SPECIAL COMMENDATION went to the Brandeis Interfaith Center (above), Harrison & Abramovitz, architects (AR, January 1956, pp. 147–153) — jury's comment: "a well-coordinated mass with a happy relation to pool and terrain" — and to the Tokeneke Elementary School in Darien, Conn., R. B. O'Connor and W. H. Kilham Jr., architects (AR, July 1957, pp. 201–205) — jury's comment: "simple and direct answer to school planning unaffected by tricks"



(More news on page 32)



Administration Post Graduate Building, University of Tennessee, Memphis. Furbringer & Ehrman, architects, Memphis; Hughes Heating Company, mechanical engineers and contractors, Memphis.

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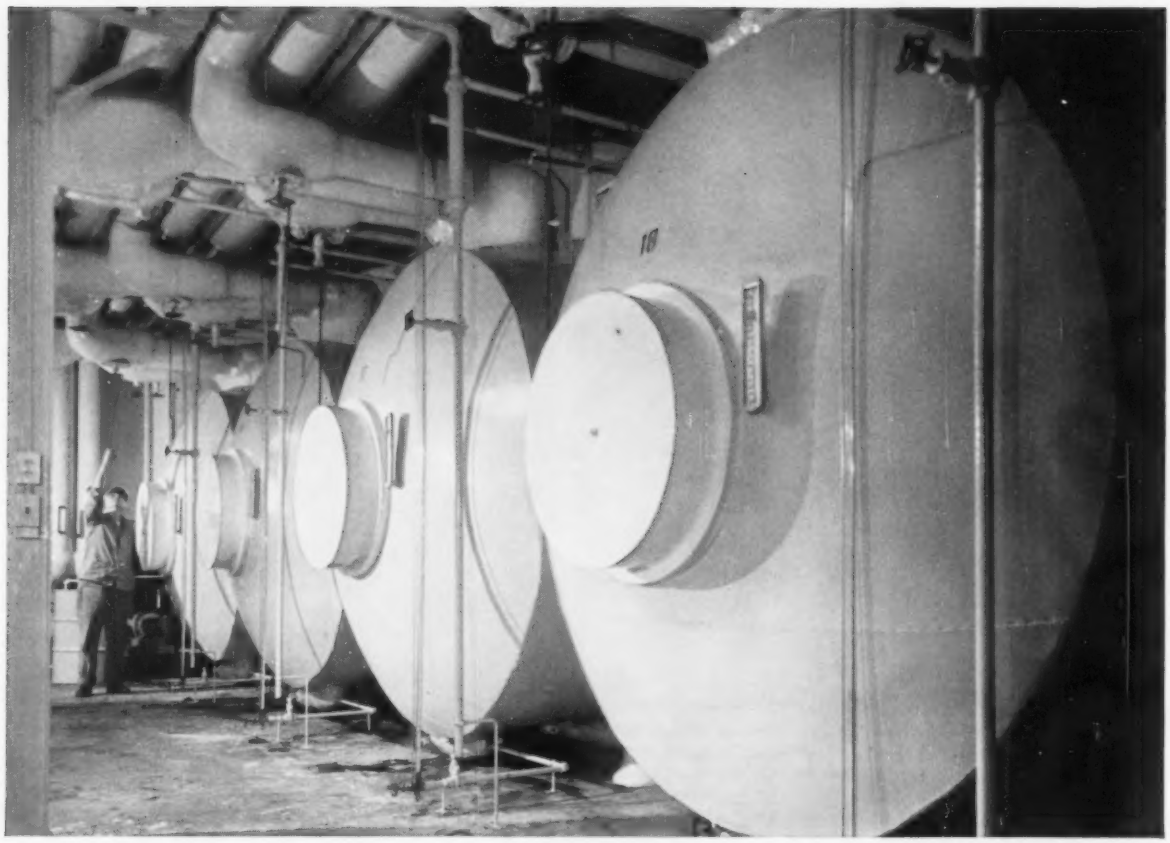
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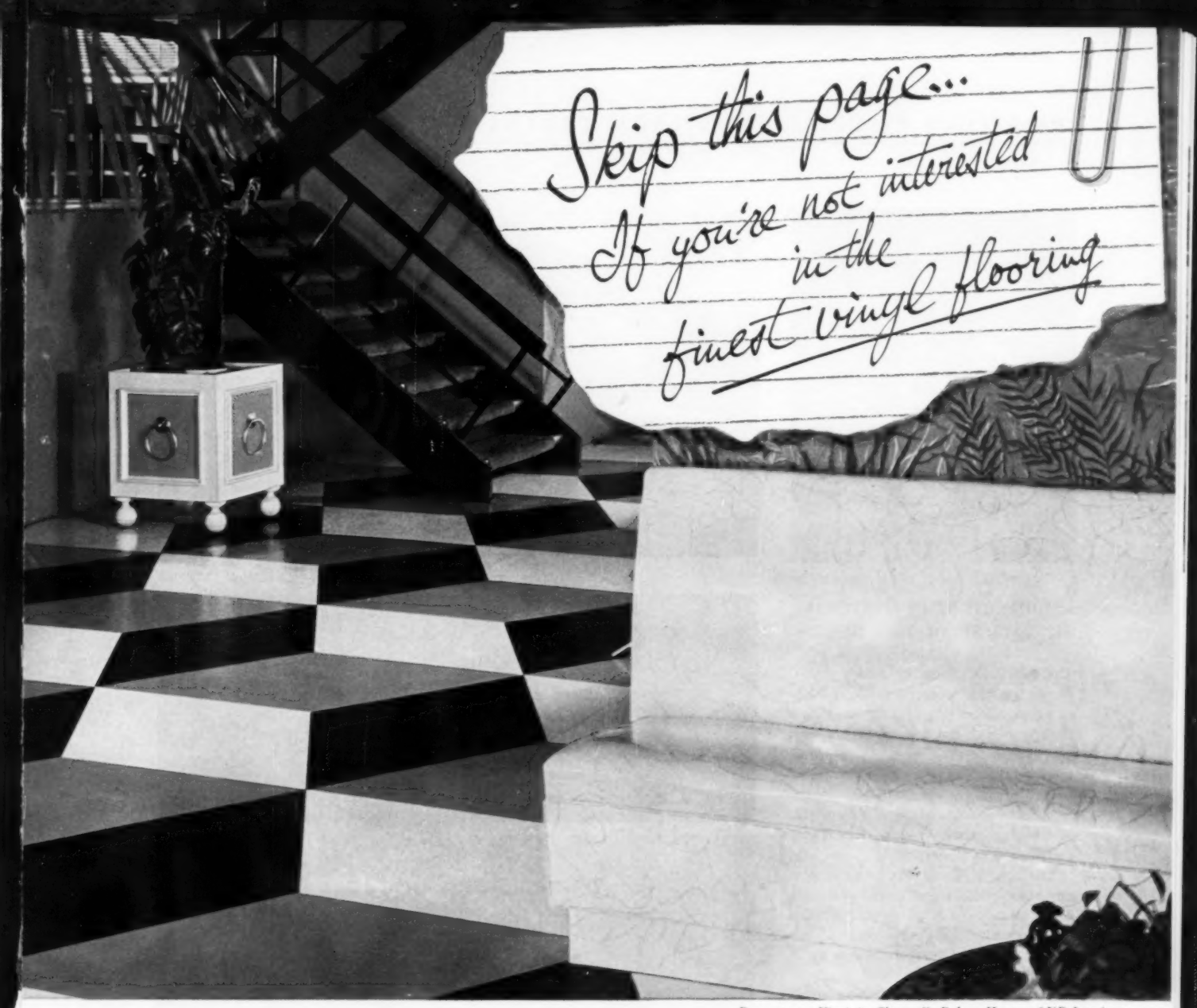


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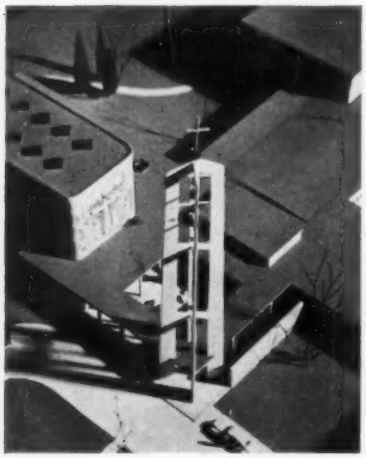
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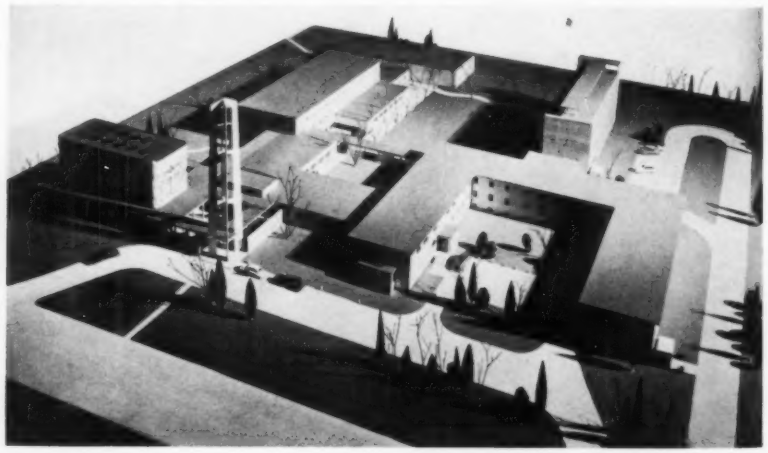
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ARCHITECTURE IN MANITOBA: ST. PAUL'S COLLEGE BUILDS

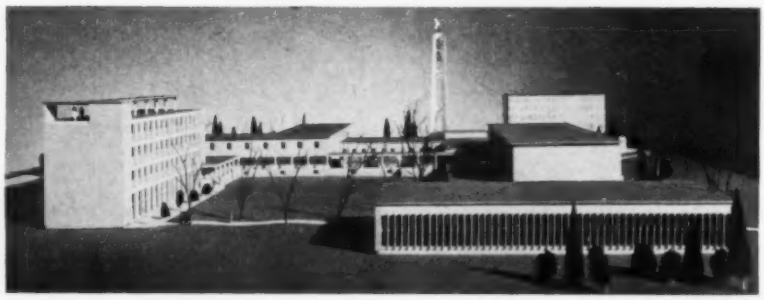
The buildings shown in model photographs on this page comprise a long-range expansion program for St. Paul's College, one of the denominational colleges linked to the University of Manitoba in Winnipeg; it is for the Jesuit Order. Architects are Gardiner, Thornton, Gathe and Associates of Vancouver, in association with Green, Blankstein and Russell of Winnipeg.

The first stage of the project, now under way, includes an instruction unit, comprising six lecture rooms, physics and chemistry laboratories and a University Catholic Center unit made up of a lunch room and clubroom, a chapel seating 380, and administration wing. Estimated cost is $500,000.

In a later stage, a lecture-room wing for 500 students, residences for men and women and complete club facilities will be added.

The Anglican College of St. John's on the site immediately east of St. Paul's will be well related to it due to the collaboration of the architects involved. The proximity of the two groups of buildings, the complex circulation requirements, the approaches and views from inside and outside the campus, have dictated the general arrangement and massing of the development.

For the most part, the structural design is reinforced concrete, although the lower units have load bearing masonry walls. Exterior finishes are stone and mosaic. Within, structural materials will be exposed "wherever possible." Chapel exterior will have mosaic mural.







(More news on page 36)







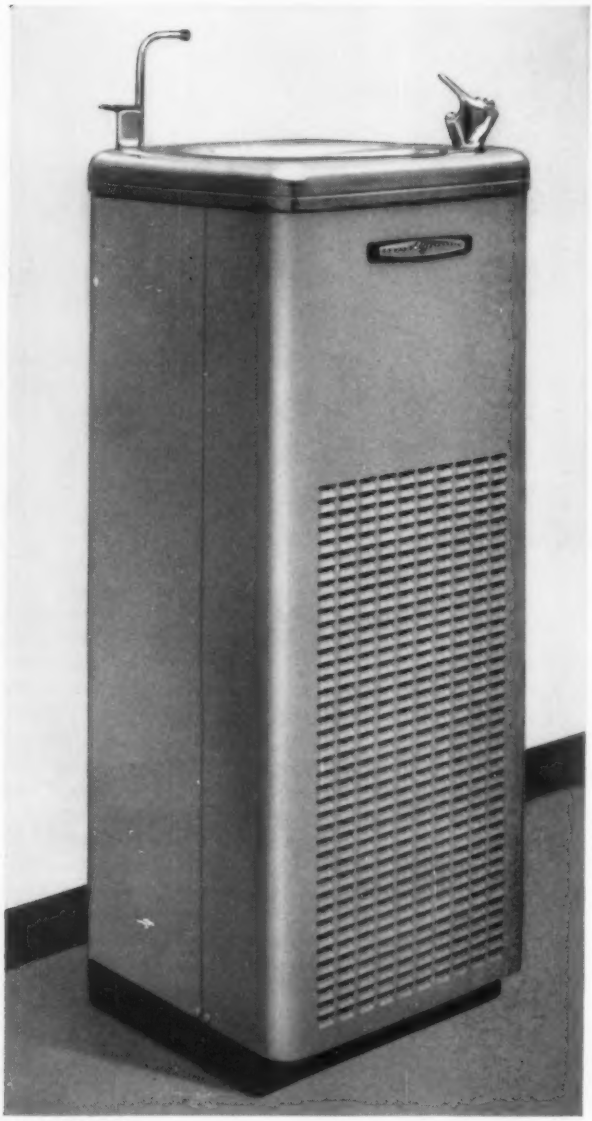




The National Biscuit Company has selected MILLS MOVABLE PARTITIONS for its new General Office at 425 Park Avenue, New York. Occupying six stories, these offices contain 6000 lineal feet of MILLS MOVABLE PARTITIONS. At the left are photographs of the offices showing the versatility and adaptability of the partitions. Write for catalog: The Mills Company 919 Wayside Road Cleveland 10, Ohio.

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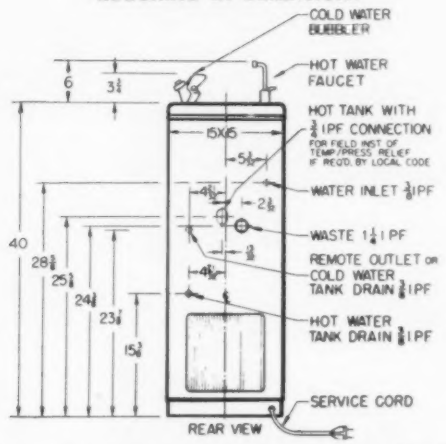
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(Continued from page 32)







AT ANNUAL DINNER: (above left) R.A.I.C. Past Presidents Gordon M. West, Toronto; H. L. Fetherstonhaugh, Montreal; Burwell R. Coon and Forsey Page, Toronto; A. J. Hazelgrove, Ottawa; John Roxburgh Smith, Montreal; R. S. Morris, Toronto; A. J. C. Paine, Montreal; President Douglas E. Kertland, Toronto, is at microphone. Center: President Kenneth Cross, R.I.B.A. president, receiving R.A.I.C. Honorary Fellowship from Canada's Governor General Vincent Massey. Right: Miss Yvonne Williams of Toronto and Alan Beddoe of Ottawa, Allied Arts Medal recipients



NEW FELLOWS OF R.A.I.C. (see story for list) pose for a formal portrait







PROGRAM HIGHLIGHTS included speech by Architect Louis Kahn of Philadelphia, shown at left above with Rev. Father Cole of St. Benoit du Lac and Jacques Greber, Ottawa town planner now living in Paris; and seminar on "The Architect's Role in Housing," featuring (center) Don Mills Developments Ltd. President Angus McClaskey, Toronto; CMHC President Stewart Bates, Ottawa; Prof. A. P. C. Adamson and Prof. James A. Murray of the University of Toronto School of Architecture; Director James T. Lendrum, Small Homes Council, University of Illinois; S. A. Gitterman, CMHC Development Division architectural adviser, Ottawa. Right above: distinguished visitors C. D. Spragg (left), R.I.B.A. secretary, and Kenneth M. B. Cross, R.I.B.A. president, with R.A.I.C. President Kertland (center)

R.A.I.C. MARKS GOLDEN JUBILEE IN ASSEMBLY AT OTTAWA

Architects must try to educate the public in recognizing and demanding good architecture, members of the Royal Architectural Institute of Canada were told at the annual dinner which concluded their "Golden Jubilee" Assembly at the Chateau Laurier, Ottawa, May 29–June 1.

Speaker was Governor-General Vincent Massey. He told his hearers that, for better or for worse, buildings are coming more and more to give us almost our total physical setting. They condition, as never before, the way we eat and enjoy our recreation, the way we do our daily work, and the way we feel towards the world we live in.

"The architect of today," he said, "is taking on a new function. A public building is no longer an event; it is an everyday affair. And thanks to increasing interest in municipal housing, you are now called on to build appropriate houses not only for the rich and very rich, but for the poor and very poor.

"Architecture has been democratized. It is the architect's problem and his privilege to devise a decent physical environment for all."

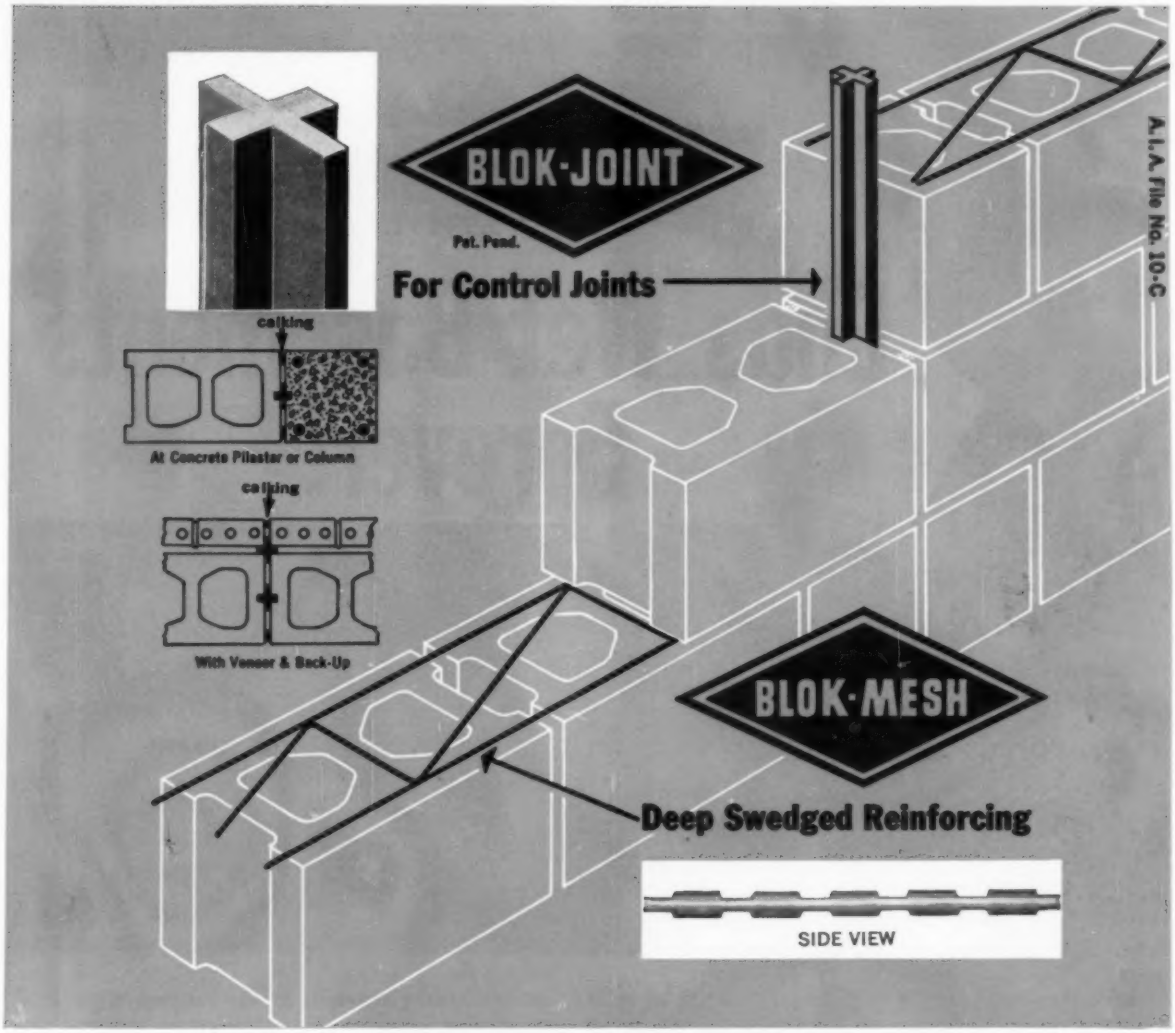
In closing, the Governor General suggested that architects should "sign" their buildings in a suitable manner, and asked members of the Institute "to temper their work with humanism and thus help architecture take its rightful place among our lively arts."

Tributes and Presentations

The Governor-General's speech was followed by a colorful ceremony admitting 13 architects newly elected to the College of Fellows. They were Douglas E. Catto, Toronto; Colin Drever, Kingston; William E. Fleury, Toronto; George D. Gibson, Toronto; William A. Watson, Belleville; Lawrence J. Green, Winnipeg; John E. Hoskins, St. John's; Hugh P. Illsley, Montreal; Victor E. Meech, Lethbridge; Gilbert Parfitt, Winnipeg; Harold N. Semmens, Vancouver; Hugh A. I. Valentine, Montreal, and Gerard Venne, Quebec City.

Then came presentation of gifts to nine past presidents of the Institute attending the dinner. Special tribute was

(Continued on page 50)



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THE RECORD REPORTS

NEWS FROM CANADA

(Continued from page 36)

paid by president Douglas E. Kertland to the founders of the R.A.I.C., among them J. Albert Ewart of Ottawa, Canada's oldest practising architect.

An honorary fellowship was awarded to Kenneth M. B. Cross, president of the Royal Institute of British Architects. One also went to Hon. Robert H. Winters, Federal Minister of Public Works, unable to attend due to the election campaign (in which he was later defeated).

Climax of the evening came with presentation of the Allied Arts Medals to Miss Yvonne Williams of Toronto and Allan B. Beddoe of Ottawa. Miss Williams received her award for her outstanding work in stained glass windows. Mr. Beddoe is heraldic advisor to the Royal Canadian Navy and has made many contributions to Canadian art over the years. He was one of the designers and executors of the "Book of Remembrance" in the Parliament Buildings.



JUBILEE GATHERING opened Assembly. Snapped there (above) some of the Ottawa committee members and their wives — Mr. and Mrs. J. W. Strutt, Mr. and Mrs. Gordon B. Pritchard, Mr. and Mrs. H. Gordon Hughes, D. G. Helmer and Norman Sherriff; (below) Mrs. Fred Lasserre and Professor Lasserre, Vancouver; Neil M. Stewart, Fredericton; and Mr. and Mrs. H. Gordon Hughes, Ottawa



Other awards included the presentation of an honorary fellowship in the British Institute for Mr. Kertland, and the awarding of an honorary membership to Msgr. Olivier Mauralut, past rector of the University of Montreal.

"Plastered in Paris"

About 200 architects and wives attended the annual dinner, slightly over half the number that enjoyed the Andrew Cobb dinner and revue presented by the Ottawa Chapter the previous night.

At that affair, taking as inspiration the pageant presented by the past 50 years, amateur Zeigfelds put on four skits, "The Good Old Days," "The Hungry Thirties," "2B or Not 2B" (a glimpse into the push-button future) and "Plastered in Paris" (a takeoff on Canadian expatriates living it up in Gay Paree). Latter effort, particularly the appearance of H. Gordon Hughes as "Mlle. Fifi," brought down the house.

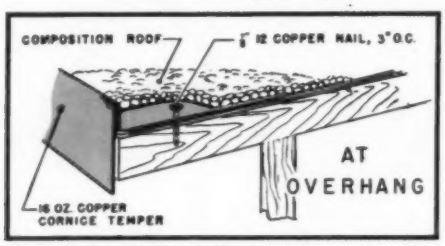
This light touch gave welcome relief from the heavier fare provided by the rest of the Assembly program. Theme, in keeping with the golden anniversary year, consisted of a forward look into the opportunities and problems of the next half century, with special emphasis on the architect's contribution.

Things got underway with a "Jubilee Gathering" in the Quebec suite of the hotel on Wednesday evening, May 29, which served well as an ice-breaker.

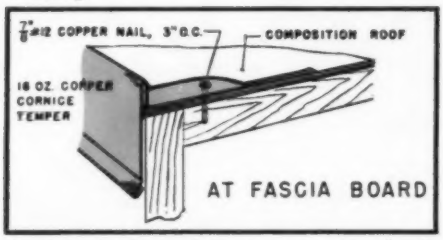
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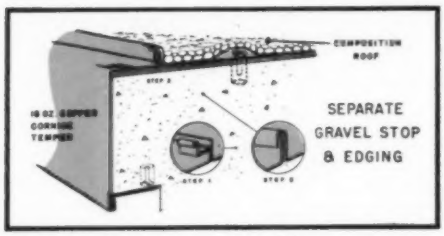
Roof edgings of copper give lasting protection



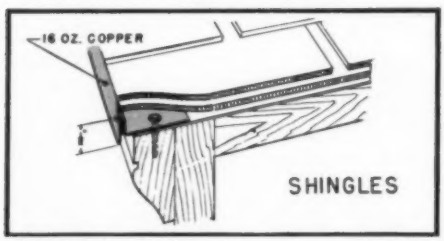
Copper edging has a 4" flashing flange, a ¾" gravel stop, and a drip edge extending at least ¼" below sheathing.



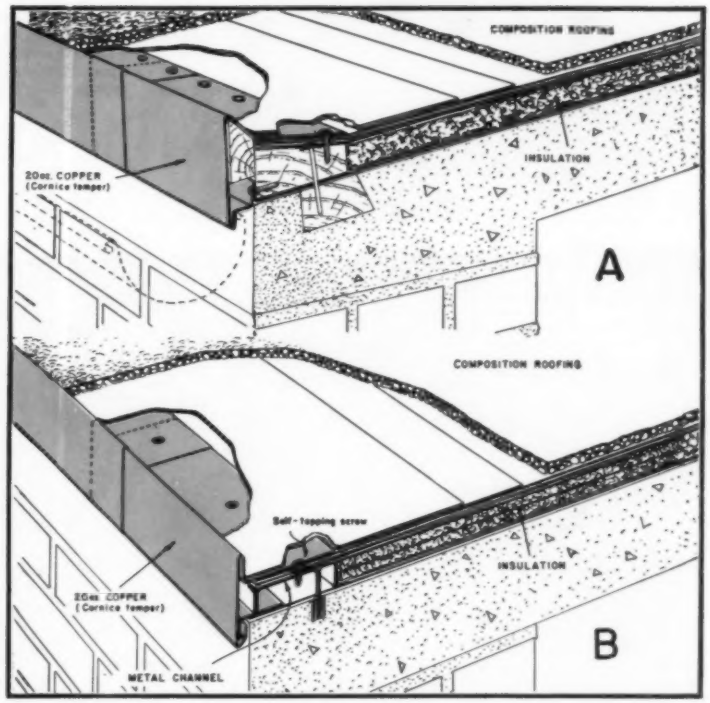
Same as edge for overhang, except that outer face is deeper for neat appearance and bottom edge is turned back to form a hem, canted outward to serve as a drip.



Edging for built-up composition roofing on a concrete deck, designed to show minimum of waviness or buckling. Facing strip is free to slide because of clinch lock seam at top and bottom. Standing seam at top is rolled toward outside and serves as gravel stop. Bottom seam is simple clinch lock joining fascia with stiffening strip for trim appearance and to provide a drip edge.



This edge for shingle roofs serves as a guide and assures alignment of shingles at end of every slope—protects the exposed edges of shingles.



Edges for insulated built-up roofs. There are two problems. One is a firm and secure fastening for the metal so that it will retain its bond with built-up roofing. The other is construction to prevent horizontal shear at the margin of the relatively soft cellular insulating material. Figure A shows how to meet these problems with wood nailers—Figure B, with incombustible metal channels.

All roofing materials, whether for flat or steep roofs, need edgings and flashings. The more durable edgings and flashings are of metal. And the preferred metal is copper—because of its lasting qualities, easy workability, weather-tight performance when properly installed.

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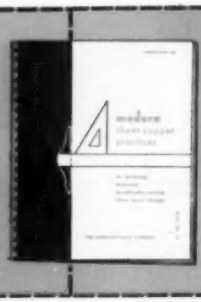
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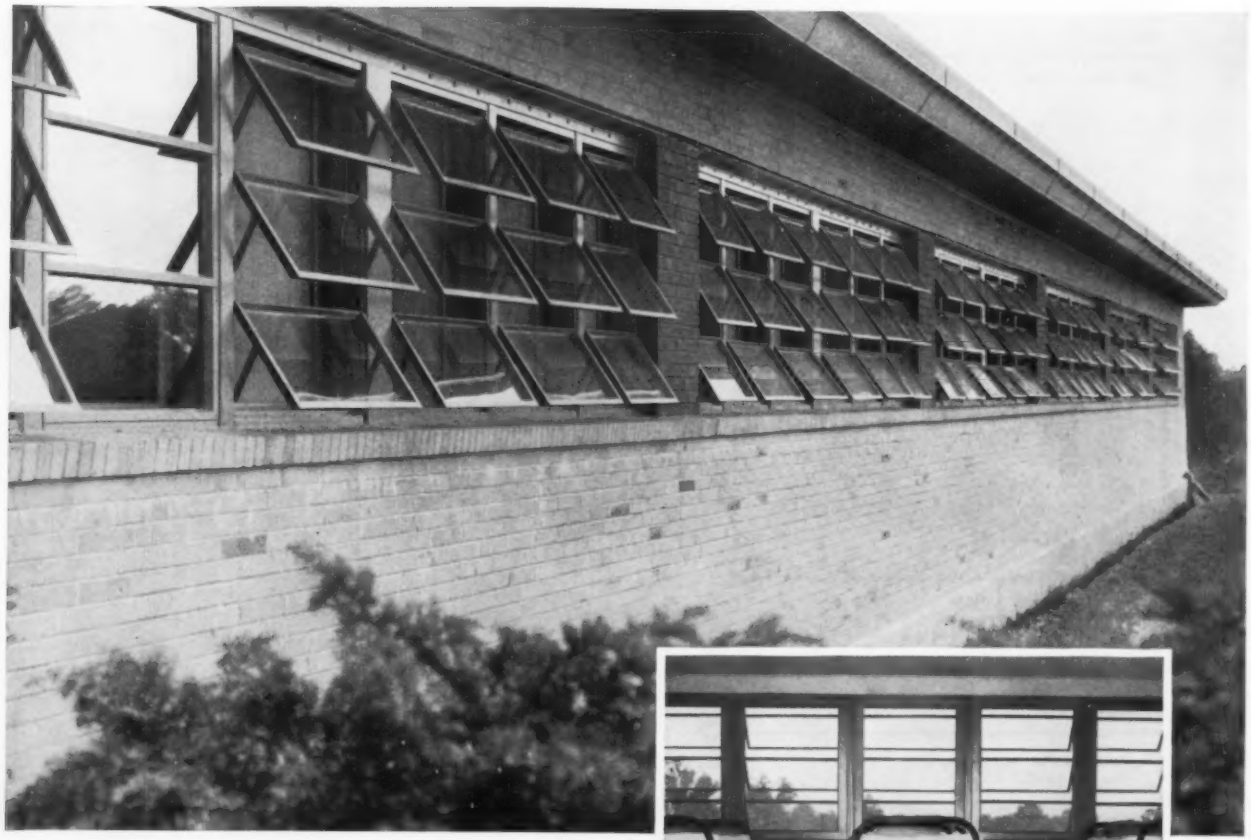
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THE RECORD REPORTS

NEWS FROM CANADA

(Continued from page 40)

Everyone henceforth was on a first name basis, though the business session the next morning saw the spirit of *camaraderie* somewhat strained.

Chief bone of contention was wording of a resolution calling for preservation of the West Block of the Parliament Buildings, whose future is in doubt. Finally, it was agreed to compromise with a statement that the assembly had "heard with pleasure of the retention of a distinguished firm of architects to study and report on the West Block and hopes that it will be practicable for this project to be developed in such a manner as will retain the general historical and architectural character of the building."

Design for Future Cities

That afternoon, Thursday, May 30, delegates enjoyed a drive to the Country Club where they had lunch and participated in a symposium on "Fitness, Order and Architecture." Speaker was Architect and Planner Louis I. Kahn, professor of architecture at Yale University and the University of Pennsylvania.

Mr. Kahn urged Canadian architects to redirect their thinking on fundamentals. He illustrated his talk with drawings of his own buildings, most of them already erected or under construction. Brilliant and imaginative towers were shown soaring into the sky on triangulated columns. A policy of decentralization is ruinous, Mr. Kahn declared. Cities of the future must be built around central areas.

The distinguished visitor recommended that parking spaces or huge garages should be built close to living areas with streets zoned for certain types of traffic rather than for types of buildings. "The buildings will conform to the type of traffic," he asserted.

The Uses of Structure

Mr. Kahn lectured the R.A.I.C.'s assembled members sternly on the use of overly long beams. "Just because we have learned how to use long concrete spans is no reason why we should have huge rooms."

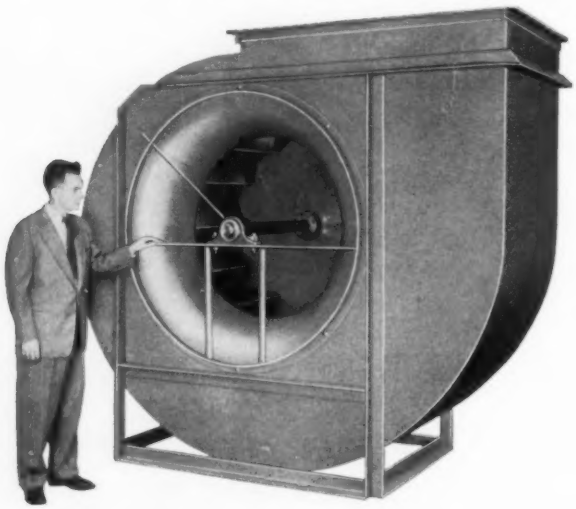
Returning to the theme of centralization Mr. Kahn declared "architecture must be related to motion and the center of the modern city is stopped. We must have therefore heavy buildings at the center, indicating this stopped motion."

(Continued on page 46)



OTTAWA COUNTRY CLUB provided setting for one session. On the lawn there: (above) R. Schofield Morris of Toronto and John Roxburgh Smith and Maurice Payette of Montreal; (below) John H. Wade of Victoria, Prof. E. R. Arthur of Toronto, Herbert H. G. Moody of Winnipeg and Andrew J. Hazeland of Ottawa





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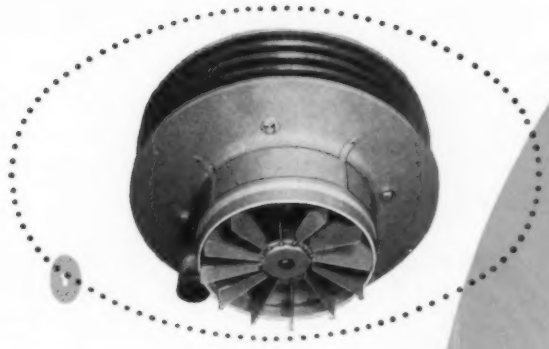
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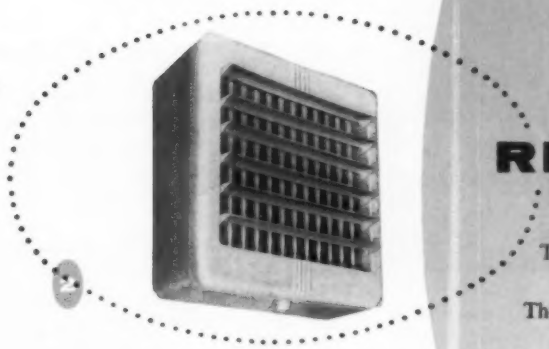
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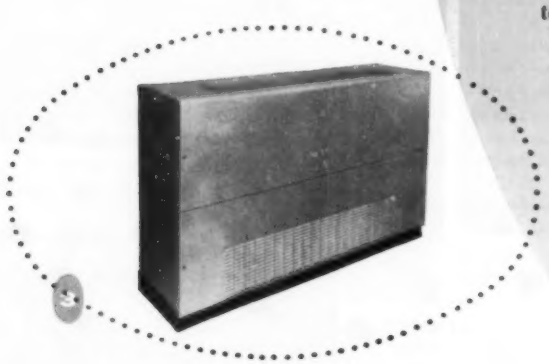
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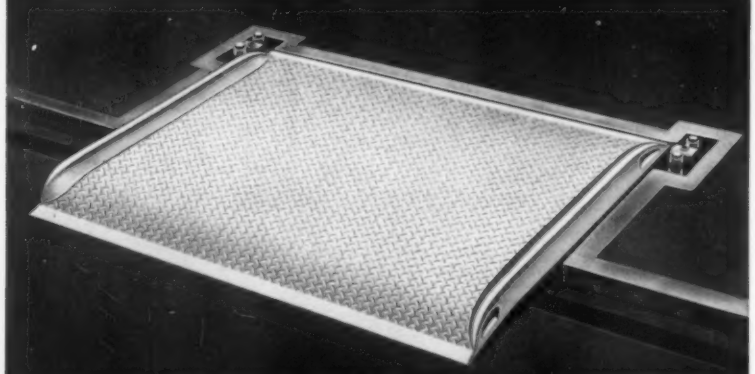
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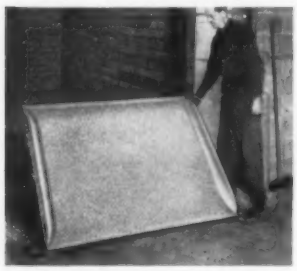


MAGLINER PERMA-DOCKS

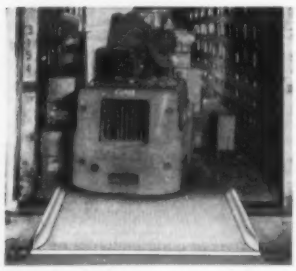
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You can figure on low installation costs when you specify Magliner Perma-Docks . . . *your client* can look forward to many years of dependable, maintenance-free service. Magliner Perma-Docks perform better, look better, are easier to install . . . *at savings that frequently run as high as 65%!* Efficient, practical design provides more usable dock space, requires minimum storage space . . . dock boards swing up and out of the way when not in use. Made of magnesium, the world's lightest structural metal, Perma-Docks require no counter balances, no leveling devices . . . self-adjust automatically to truck or trailer floor level.

Other advantages for your client include: Tire Saver Safety Curbs to prevent truck run-off and protect against power truck tire damage; crowned design to prevent hang up of low underclearance equipment; flared curb ends for safe wide angle turns; beveled edges to eliminate load jar. Plans that specify Magliner Perma-Docks assure the client a safer, more efficient dock loading operation —the architect a job well done.

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THE RECORD REPORTS

NEWS FROM CANADA

(Continued from page 44)

Architects and Housing

Next morning witnessed a massive onslaught on the housing problem spearheaded by Stewart Bates, president of the Federal government's Central Mortgage & Housing Corporation.

Mr. Bates told his audience that Canada has almost 6,000,000 people under 18 years of age. The proportion in relation to total population — about 37 per cent — is unique. Soon, he said, they will marry; in a year or two they will begin to enter the labor market, and then the housing market.

"Here is the chance for your profession to take wing. This future involves you in house design, group design and neighborhood design, city and metropolitan design and regional design — quite a tall order.

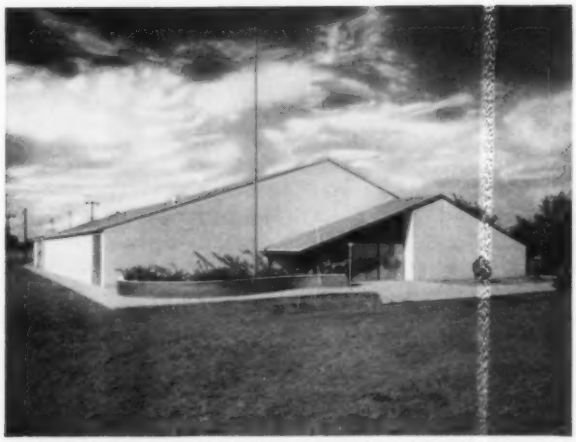
"Take only one element, house design. Today this can hardly be termed the bread and butter of your profession. It may have been the first love for most of you, because it is the most human and sensitive branch of your art. But in recent years your clients have come mainly from the nonresidential part, from industrial, commercial and institutional builders. All of these put together just about equal in value the amount of residential building. The source of your

(Continued on page 270)



JUBILEE GATHERING Again — (above) P. C. Amos of Montreal with John Lovatt Davies, Vancouver, and Mr. and Mrs. Gerard Verre, Quebec City; (below) Prof. James A. Murray, Toronto; and Mr. and Mrs. Ian MacLennan, Ottawa





School gym in Pima County, Arizona. Scholer & Fuller, Architects



Church in Midland, Michigan. St. Clair Pardee, Architect



School gym in Saranac, Michigan. St. Clair Pardee, Architect



Fair Building in Abilene, Texas. Tucker & Lindberg, Architects

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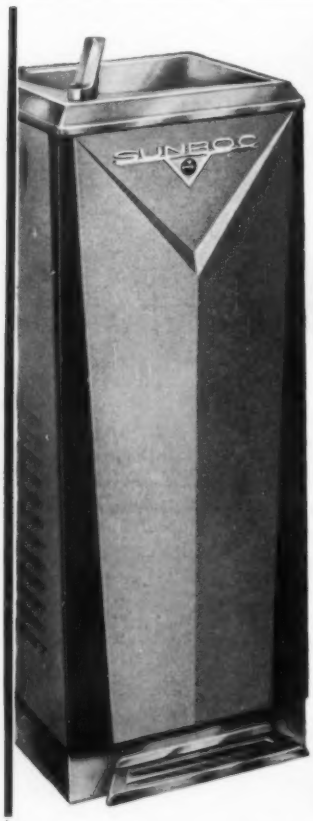
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1957 HOUSING ACT IS LAW: HOME BUILDERS JUBILANT

A compromise housing bill making home purchases easier through the lowering of down payment requirements on FHA-insured houses was signed by the President last month. The Housing Act of 1957 gave private home builders much of what they had been seeking in the way of new legislation and was expected to influence a greater activity in the market next year. It came too late to affect home builder plans for calendar 1957, said the National Association of Home Builders, but N.A.H.B. was jubilant: President George S. Goodyear said the legislation was "the most significant forward step taken" in the housing field since creation of the Federal Housing Administration in 1934.



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Major Provisions

Here's a point by point analysis of essential features:

— The House formula on lower down payments prevailed, the new law now authorizing a three per cent charge on the first $10,000 value, 15 per cent on the next $6000, and 30 per cent for all above that. A Senate stipulation was retained, however, requiring the FHA Commissioner, in setting such lower down payments, to determine that his action is in the public interest. He must take into account (1) the national economy and conditions in the building industry and (2) the availability of financing for VA-guaranteed loans under the GI bill.

— A move to broaden and liberalize the Section 221 mortgage insurance program was eliminated in the final bill, conferees deciding that the housing subcommittee of the House should further study the housing needs of all income groups next year.

— Public housing narrowly escaped virtual extinction when conferees turned down a House proposal that the low-rental units be limited to the number certified by local governments as needed to house families displaced by Federal, state, or local government action in the community.

— Nor would Congress agree to raising the interest rate on college housing loans. An attempt to boost the rate from 2⅞ per cent to 3½ per cent was voted down.

— A discount control provision was finally written into law. Both FHA and VA now are directed to stipulate reasonable ceilings on charges, fees, and discounts, taking into account geographic features and other factors affecting the type and quality of the mortgage security.

— HHFA now can make urban planning grants to official planning agencies for areas threatened with rapid urbanization by establishment or expansion of Federal installations.

— Authority was contained to increase the urban renewal capital grants of $900 million by $350 million this fiscal year.

— $715 million in new borrowing authority for the Federal National Mortgage Association (FNMA) was approved, and an increase in the agency's capital stock of $65 million which may be issued from time to time. Under the

(Continued on page 310)

Western Editor: ELISABETH KENDALL THOMPSON, A.I.A.
2877 Shasta Rd., Berkeley 8, Calif.

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WHY NOT ARCHITECTURAL CRITICISM?

Criticism is not inevitably censure; if it is fair, if it presents all sides, it should be a welcome stimulus not only to the architect but to the public as well.

In the recent controversy over the design of San Francisco's proposed new Hall of Justice, the only voices raised have been those of laymen. No unbiased appraisal of the designs has been made by informed and trained critics, no presentation of the many factors involved in the job has been made, the architects have not been interviewed.

Isn't it about time that the public has a chance to know what are the values that contribute to good architecture, even as they have been exposed to the creeds of modern art, and the integrities of musical interpretations?

AN EMINENT ART AND MUSIC CRITIC remarked not long ago that it is his newspaper's policy not to permit architectural criticism because architecture is a permanent part of the city's environment. Painting, sculpture, music, the stage arts all are proper subjects for critical articles, the paper feels, because they are but evanescent parts of the city's cultural pattern.

This explanation throws helpful — if dismaying and discouraging — light on the newspaper's reluctance to report on this aspect of the arts today. But how valid is the reasoning that leads a newspaper to ignore the art that is responsible for the face of a city — for the environment that is the stage for the happenings that are the newspaper's life-blood?

How valid is it to consider one art more suitable for critical appraisal than another? How valid is it to set up permanence as a standard of eligibility to the kind of evaluation which makes men think and, thinking, aspire to finer achievement?

How permanent is environment anyway? And the buildings that make it up — are they so everlastingly permanent that good or bad, they must be accepted with complete passivity? Mansions of another day become boarding houses and flats, and then are torn down so that department stores can be built on their sites; once-adequate three-story office buildings succumb to demolition and are replaced by skyscrapers. Even the thoroughfare is not immune to change.

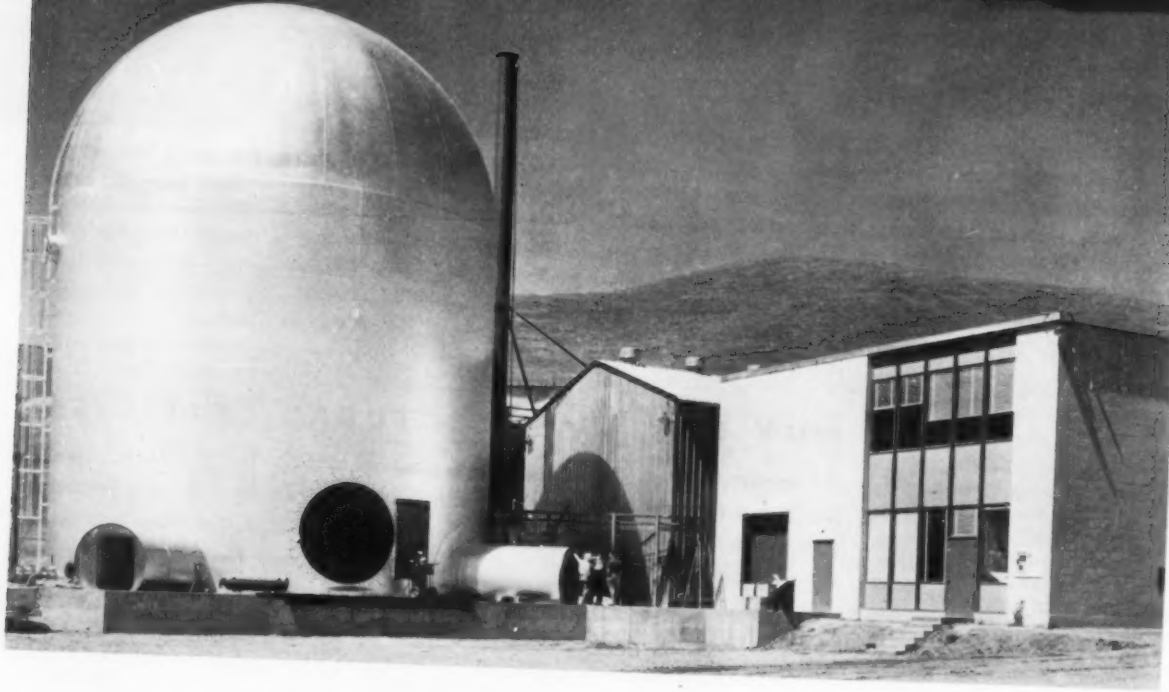
As an argument *against* critical appraisal permanence, then, offers little significance. It seems instead a better argument *for* critical appraisal. For the degree of permanence varies with the art; change has its own pace for each, and of all the arts architecture requires the greatest effort to remove. The painting can be taken from the wall, the song is gone when it is sung. But the building stays a while where it is placed before the forces of decay and the pressures of economics change it, and this is, comparatively at least, and by today's standards, a measure of permanence.

What you must live with you have a right to appraise — for its virtues, its shortcomings, its sacrifices, its compromises, the ideas that brought it forth, the requirements that could be fulfilled and those that could not, the conditions that restrained and those that nurtured its achievement.

But no rationalization is necessary to give validity to the most fundamental argument of all: that architecture as one of the arts is due the status of recognition which informed critical appraisal could give it.

Two problems — three if the primary problem of convincing the newspapers is included — must be hurdled if this goal is to be achieved. One is that architects should cultivate the attitude toward criticism that is a constituent part of the other arts. The other is that there should be writers of architectural criticism who are trained in architecture; otherwise their remarks, being but personal opinion, will be not only valueless but without the balance which judgment — in the highest sense — demands, and to which creative art is entitled.

E. K. T.



PRIVATE INDUSTRY'S FIRST NUCLEAR POWER PLANT

GENERAL ELECTRIC'S new Vallecitos Atomic Laboratory at Pleasanton, Calif., is this country's first privately financed full scale nuclear power plant and as such marks an important milestone not only in the industry of the West but in the entire nuclear development program. Furthermore, since there is little doubt left that such plants will become steadily more numerous, this first private-industry plant will give Western architects and engineers an opportunity to become acquainted with the special requirements in planning and structure that nuclear power plants impose.

Ten years ago practical peacetime application of the heat from atomic fission seemed only a remote possibility. Yet only five years later it was an accomplished fact. Today, two of the reactors in the government's experimental power reactor program are producing electricity on a continuous basis (the Argonne boiling water reactor at Lemont, Ill., and the Army's Package Power Reactor at Fort Belvoir, Va.). By the end of this year at least five more reactors are expected to go into production. One of these will be the joint AEC-Atomics International sodium graphite reactor in the Santa Susana mountains near Los Angeles. By the mid 1960's the government expects that there will be some 40 power reactors in operation serving industrial and domestic needs in various parts of the country. And by 1980 this number will have been multiplied several times over.

The nuclear power plant will, therefore, be a familiar part of the American horizon in far fewer years than anyone originally thought possible. As reactor experience and technology increases with the operation of the "first generation" plants now planned or actually under construction, production costs will be brought more and more into line with those of power from conventional plants. As the supply of conventional fuels becomes scarcer as it seems destined to do, the gap between the costs of nuclear and steam or hydro power will be further closed.

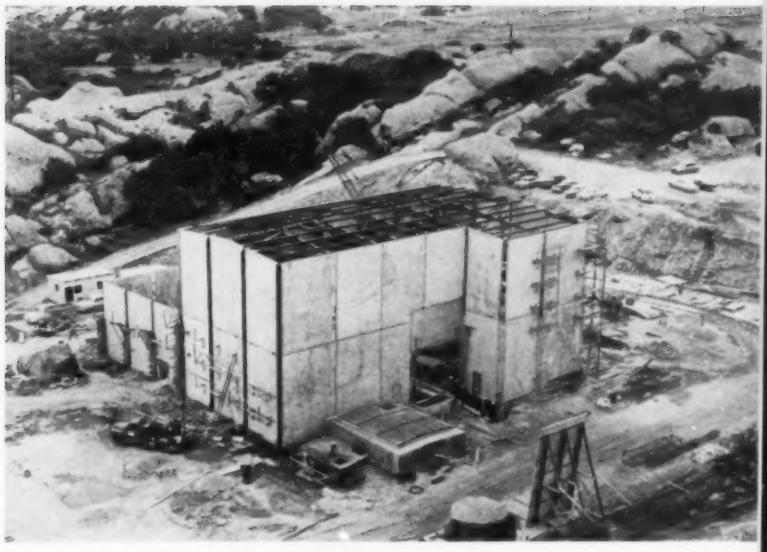
The big problem in the reactor section of the nuclear field today is how to achieve this economic feasibility. To find out and to hasten the day when nuclear power can be produced competitively in this country, both government and industry are carrying out full-scale experiments on reactor technology, on construction costs and on operation in such projects as the Santa Susana and General Electric plants here in the West and in others in the Midwest and East.

To be fully economic, however, it seems more than likely that the nuclear plant will have to follow some of the known principles of conventional plant operation. This means that nuclear power plants will probably have to be located near load centers, just as are conventional steam electric plants. As they encroach on the urban scene, duly provided with all possible safety measures, these plants should become of greater concern to architects and planners than they are at present, since their design cannot fail to influence the areas in which they are located.

In some respects the nuclear plant will not be dissimilar to the conventional plant. One part of it will consist of a familiar turbine-generator plant where steam is converted into electric power. But the source of the heat which makes the steam will be radically different for this heat will come from the release of energy in the



First private-industry full scale nuclear power plant in this country, left and above, Vallecitos Atomic Laboratory, Pleasanton, Calif.



Courtesy Atomics International

The shapes of things to come: silhouette of reactor containment vessel will become familiar landmark as nuclear power plants become more numerous. At Santa Susana, Calif., AEC-Atomic International reactor (above) is installed partly below grade and housed in rectangular concrete building. More frequently used shapes for reactor containment are capsules, cylinders and spheres: below, from top, Army's Package Power Reactor, AEC's Boiling Water Reactor, Argonne National Laboratory, AEC's Knolls Atomic Power Laboratory reactor

fissioning of uranium atoms instead of from the combustion of conventional fuels.

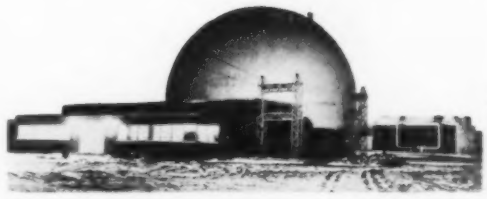
The reactor in which this fission process takes place is housed, as an additional safety measure over and above the built-in precautionary measures in the reactor controls, in a containment vessel of steel or concrete. The shapes best adapted to the purpose of the containment vessel are the sphere, the cylinder with one or both ends hemispheres, and the right cylinder. In some cases the vessel will be entirely above ground, in others it will be partially underground.

The General Electric reactor at Vallecitos is housed in a cylinder with two hemispherical ends, one of which is 36 ft below ground. It is 48 ft in diameter, 105 ft high and is of steel. All joints were x-rayed. The reactor itself is in a pressure vessel designed to withstand normal operating pressure of 1000 psi. Shielding is equal to eight feet of concrete. A movable upper shield of iron 18 in. thick rolls on rails.

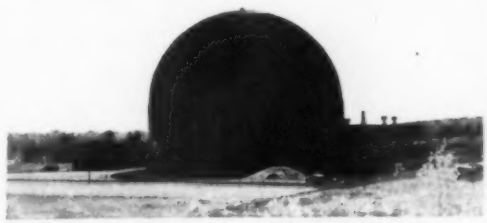
When the reactor starts operating next year it will produce, through the adjacent generator station, 5000 kw of electric power for transmission over Pacific Gas and Electric lines to consumers in the surrounding area.

But the reactor is only one part of Vallecitos Laboratory. Other buildings, also designed and built by the Bechtel Corporation, include a radioactive materials laboratory and an experimental physics laboratory. A materials testing reactor, one of the first to be built by private industry, will be built in the near future. In this complex of buildings in the rolling hills of the Livermore Valley General Electric hopes to find the means for making power economical.

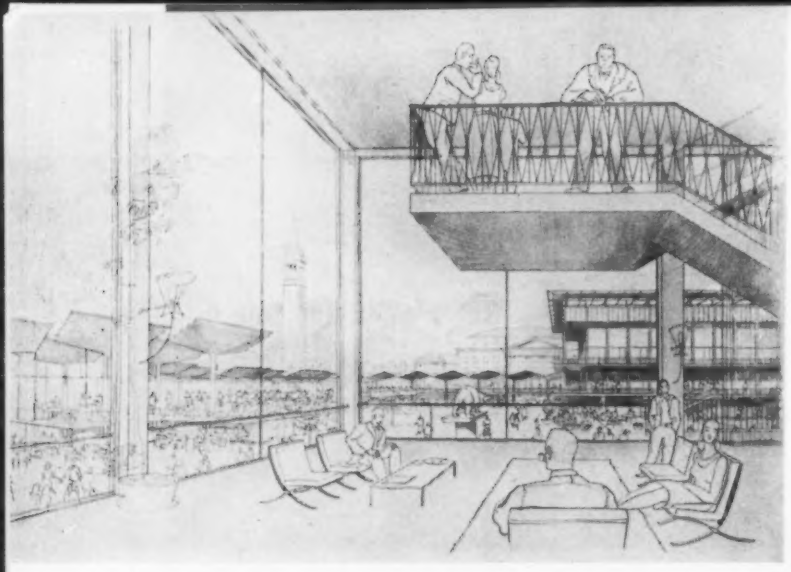




Argonne Nat'l Lab.



G. E. News Bureau



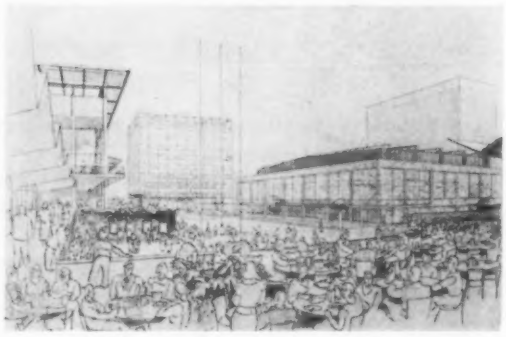
Auditorium lobby overlooks plaza with cafeteria at left, student union at right. South campus site is central to campus and residential student concentrations (see site plan left, below)

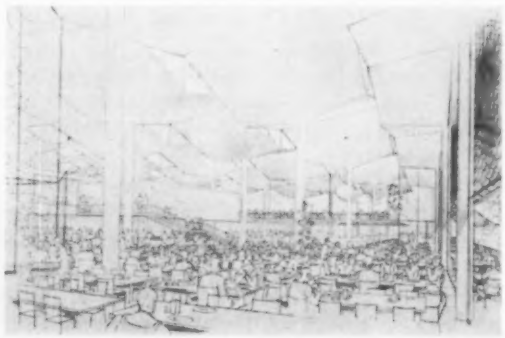
U. C. AGAIN SELECTS ARCHITECTS BY INVITATIONAL COMPETITION

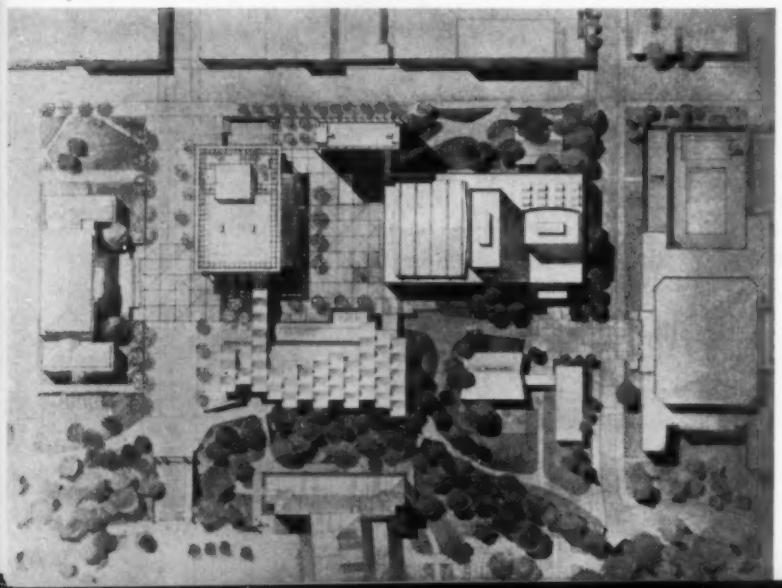
FOR THE SECOND TIME the University of California has selected architects for a major project by an invitational competition among six California architectural firms. Winners of the competition for the California Memorial Union, the University's student center, are Vernon DeMars and Donald Hardison, associated architects. They will be architects for the first two buildings — a cafeteria and student union building — of what will eventually be a four-building complex, containing also a student offices building and an auditorium-theater.

The other participants were San Francisco architects Gardner Dailey, John Funk and Kitchen and Hunt (associated), and Los Angeles architects Honnold and Rex, Pereira & Luckman, and Risley and Gould. Jury members were architects Pietro Belluschi, chairman, John Dinwiddie and Richard Bennett, and Regents Edwin Pauley and Edward Heller.









Above: top, student union (left) and cafeteria (right) will be built first; center, future auditorium, seen across plaza from cafeteria terrace and office building; bottom, cafeteria roof is of folded plate concrete and glass



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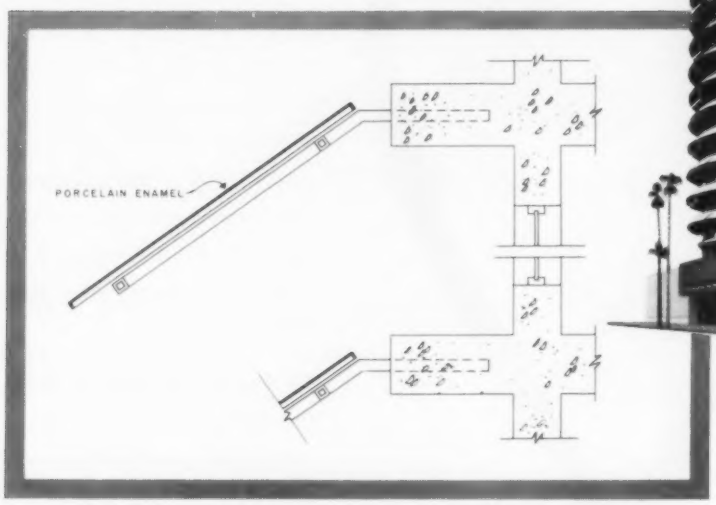
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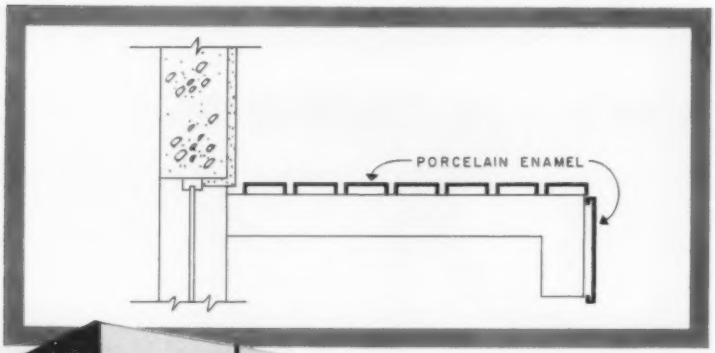
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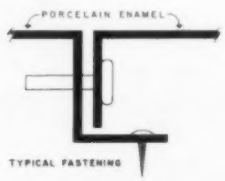




SHELL OIL COMPANY BUILDING, Ventura, Calif.
Architect: Welton Becket, F. A. I. A. and Associates, Los Angeles
General Contractor: Geo. MacLeod, Ventura, California



CAPITOL RECORDS BUILDING, Hollywood, California
Architect: Welton Becket, F. A. I. A. and Associates, Los Angeles
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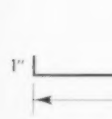
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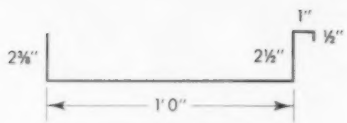
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PRESS BRAKE



Steel roof decking...durable, strong and economical

Fentron Industries of Seattle, Washington, has found USS Steel Sheets ideal for low-cost and reliable roof deck construction. The service station canopy roof above, formed and installed by Fentron, is fabricated from 18-gauge USS Sheets by the press brake method and plug-welded every 18 inches. Sections are one-foot wide in nine-foot spans with two-and-one-half inch standing seams that interlock on installation; leak-proof against wind and water. This roof decking has withstood test loads of 55 lbs. per sq. foot, without distress . . . good overhead insurance under the snow loads in Washington winters.

Steel roof decking is durable, strong and costs less to install. Other materials require more weight, additional construction time and greater cost to equal the strength and carrying capacity of steel.

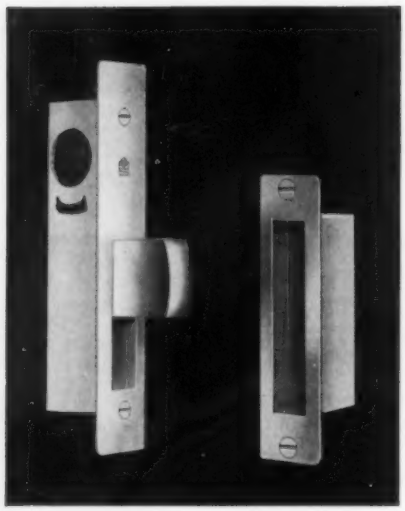
Whether you build service stations, industrial plants or homes, we'll be happy to direct you to steel decking fabricators who will provide you with additional information and specifications.

Specify USS—One Source for All Steels

United States Steel Corporation • Columbia-Geneva Steel Division
120 Montgomery Street, San Francisco 6

USS

UNITED STATES STEEL



ADAMS RITE

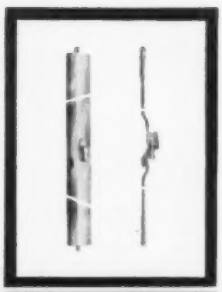
Maximum Security Narrow Stile Locking Devices

For New or Replacement Installations

Whether you specify, install, or sell narrow stile locking devices, you can be confident that Adams-Rite offers the utmost in design, construction, simplicity and safety. Check these advanced ideas that insure top performance and lasting customer satisfaction:

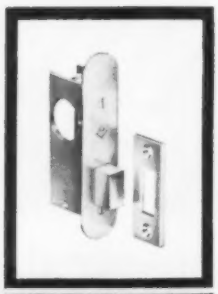
Illustrated above—Maximum Security 1850 Deadlock:

This is the unit that provides Maximum Security for modern narrow stile swinging glass doors. The pivoted bolt actually bridges the opening with a bar of steel, retaining as much bolt within the lock stile as is projected. Its protection is so great that forced entry is impossible without destruction of the door itself.



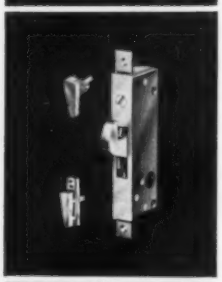
MS 1849 Two-Point Door Bolt:

The modern method for locking the inactive door of a pair of narrow stile doors. Top and bottom bolts are locked or unlocked by natural operation of an attractive turn conveniently located on the inside surface. Positive deadlock of both doors is automatically provided when cylinder deadlock is thrown.



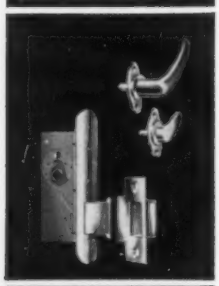
970 Minimum Backset Deadlock:

This unit provides economical deadlocking for rigid narrow stile swinging doors. Like all Adams-Rite narrow stile locks, the 970 Series operates with standard mortise type cylinders of any make.



1848 Deadlock for Narrow Stile Sliding Glass Doors:

Every sliding glass door deserves the same protection demanded of any other exterior door. The 1848 gives security with an adjustable heavy hook type bolt with which turn and cylinder controls are used. For added safety, the bolt collapses if the door is accidentally shut while bolt is projected.



1450 Deadlocking Latch:

Traffic control is made possible in a narrow stile swinging door entrance by use of the 1450 Series Deadlocking Latch. Two-way traffic flow or restricted entrance is achieved by a simple selector. Ideal for any public area with a closing-hour problem, such as banks, markets, apartment houses, etc. It satisfies building and safety regulations.



1340 Series, Deadlock and Latch:

Combination deadlock and latch for narrow stile swinging doors. A simple selector changes the unit from free swinging to latch action. The positive latch action helps prevent air losses when temperature control systems are used.

Complete specifications and information on request.

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MANUFACTURING COMPANY

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l. to r. Dearborn-Massar, Evergreen

Left, Hoyt Street Medical Clinic, Portland: Skidmore, Owings & Merrill, Portland, architects. Right, Oceanlake-Wecoma Community Congregational Church, Oceanlake, Ore.: Warren Weber, architect

OREGON: HONOR AWARDS

NORTHWEST ARCHITECTS CHOOSE YEAR'S BEST BUILDINGS

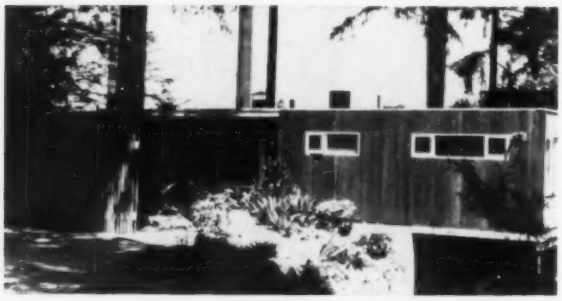
Honor awards programs held in June by the Oregon and Washington chapters, A.I.A., in their respective areas, have cited 10 buildings as outstanding for their design. This year's program was the seventh for the Washington state chapter, the second for Oregon.



Evergreen

Portland Garden Club: John Storrs, architect

OREGON: AWARDS OF MERIT



Evergreen

William Fletcher residence, Portland: William L. Fletcher, architect



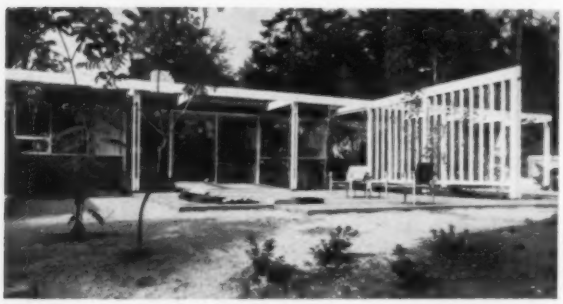
Evergreen

Philip Feldman residence, Portland: Saul Zaik, designer (candidate for registration in Oregon)

WASHINGTON: HONOR AWARDS



Dearborn-Massar



Dearborn-Massar

Left, Lewis J. Dowell residence, Seattle, and (right) John Russell residence, East Medina: Paul Hayden Kirk & Associates, architects

More Washington Awards on page 48-20

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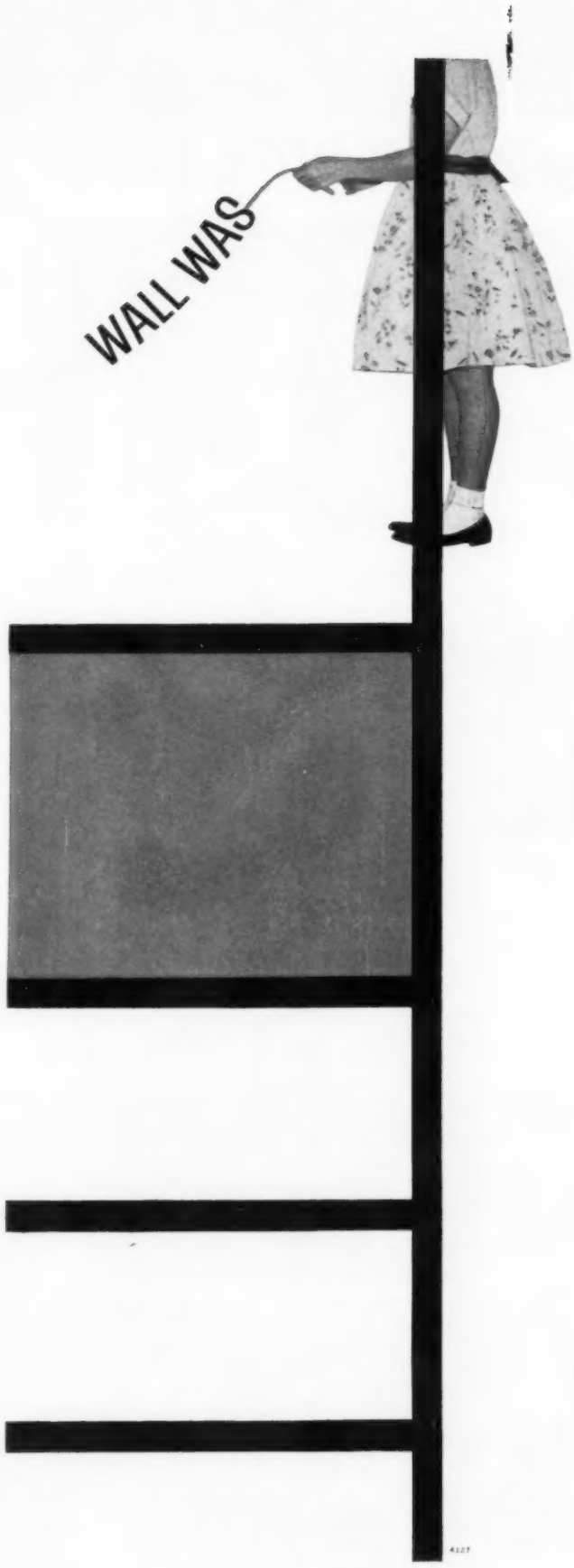
Plants in Los Angeles, California and Grand Rapids, Michigan



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Phoenix 2026 South 11th Avenue, ALpine 3-3178
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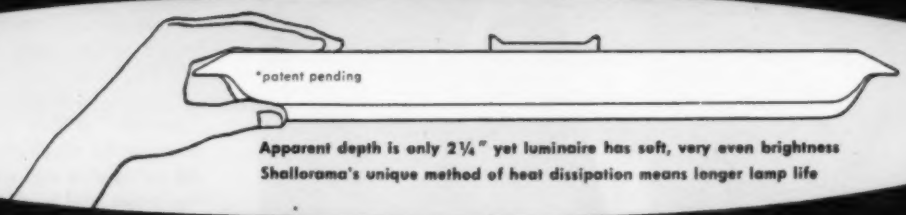
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WASTESPACE

O Pioneers

"I'll never do one of those atomic buildings," said an architect recently. "They're too big for my practice."

If he hadn't been a young man, there might have been a point to what he said. But the chances are that he *will* do a building which requires provision of protection against radioactivity.

What he didn't realize is that while he very probably won't have a chance to do a Bevatron building — until just recently it was the biggest accelerator in the world — he really can't escape the nuclear age. Industry, medicine, education, agriculture, research — these are fields in which nuclear machines and products are already accepted tools for better methods, more economical production, new and deeper knowledge. The nuclear machines they use are by no means all large; some are of a familiar enough size, even if their shape and use is strange and new. Oil companies, users of polyethylene plastics, food companies, pharmaceutical manufacturers, industrial machine manufacturers, parts fabricators are just a few of the industries in which Van de Graaff accelerators are improving products and cutting costs.

Isotopes in industry and medicine are so well established as tools that they are commonplace. Reactors as heat producers for power plants will be rarer, possibly, in widespread application because of their tremendous cost but a small "portable" reactor has just gone into manufacture which is expressly designed for universities and colleges as a teaching device, and is adaptable for production of isotopes for hospitals and for industry. Its low cost and simple concept, as well as its easily handled fuel, indicate a widespread use for it.

So the chances of running into a building program that includes something about the nuclear age are getting better all the time, and it's high time the architect knew something of what this field is.

A.I.A.'s Coast Counties chapter has taken a pioneering step in scheduling a panel discussion for its August meeting at which nuclear scientists and engineers, architects and a representative of the nuclear industry will speak on The Architect and the Nuclear Field — and this is a step in the right direction. Also pioneering, and also in the right direction is the Northern California chapter's action in setting up a Committee on Nuclear Facilities, with national committeeman Bill Rice as chairman, as a regular chapter activity. It's time we wake up to the atom! ***E.K.T.***

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Architect, Richard J. Neutra
General Contractor,
Pallisgaard & Wilson

HANDRAILS:
Statler Hotel, Los Angeles
Architect,
Holabird, Root & Burgee
General Contractor, Robt. E. McKee

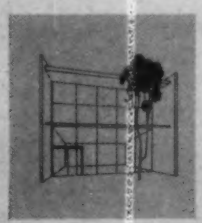
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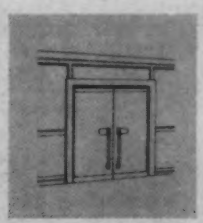
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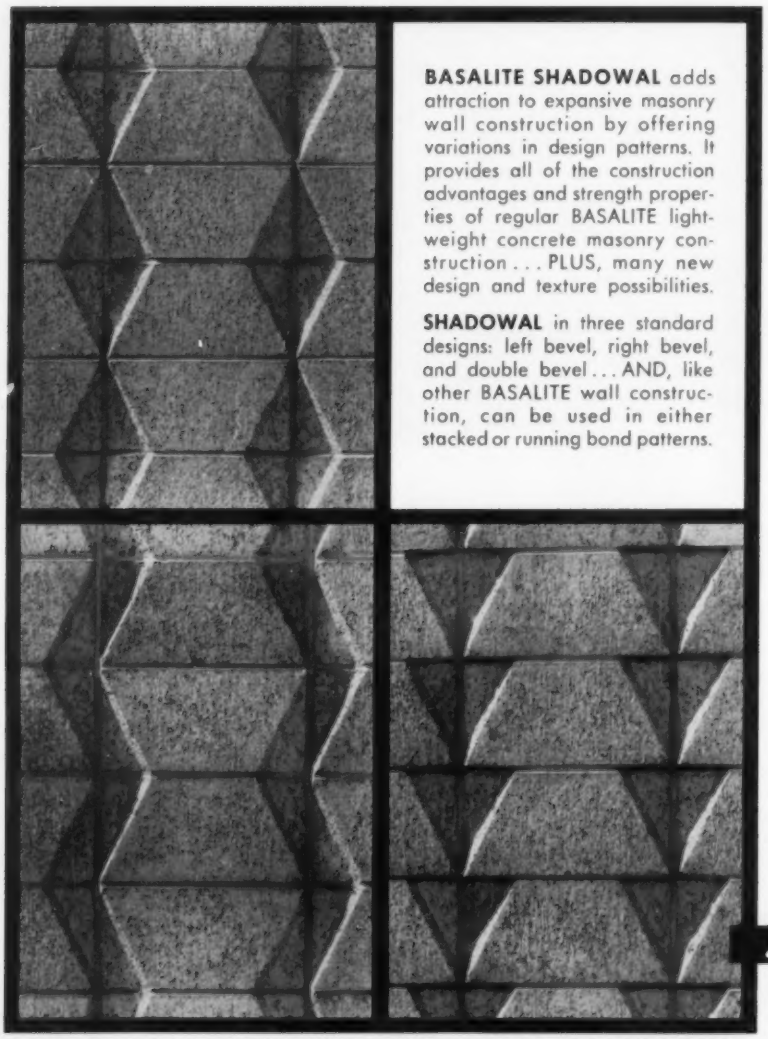
ARCHITECTURAL METAL LETTERS

new design possibilities are yours...



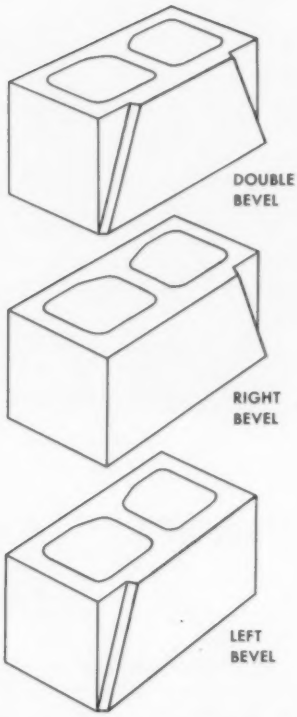
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BASALITE SHADOWAL adds attraction to expansive masonry wall construction by offering variations in design patterns. It provides all of the construction advantages and strength properties of regular BASALITE lightweight concrete masonry construction . . . PLUS, many new design and texture possibilities.

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Take advantage of NEW BASALITE SHADOWAL unit to add eye-catching highlights to any interior or exterior wall, on your next project!

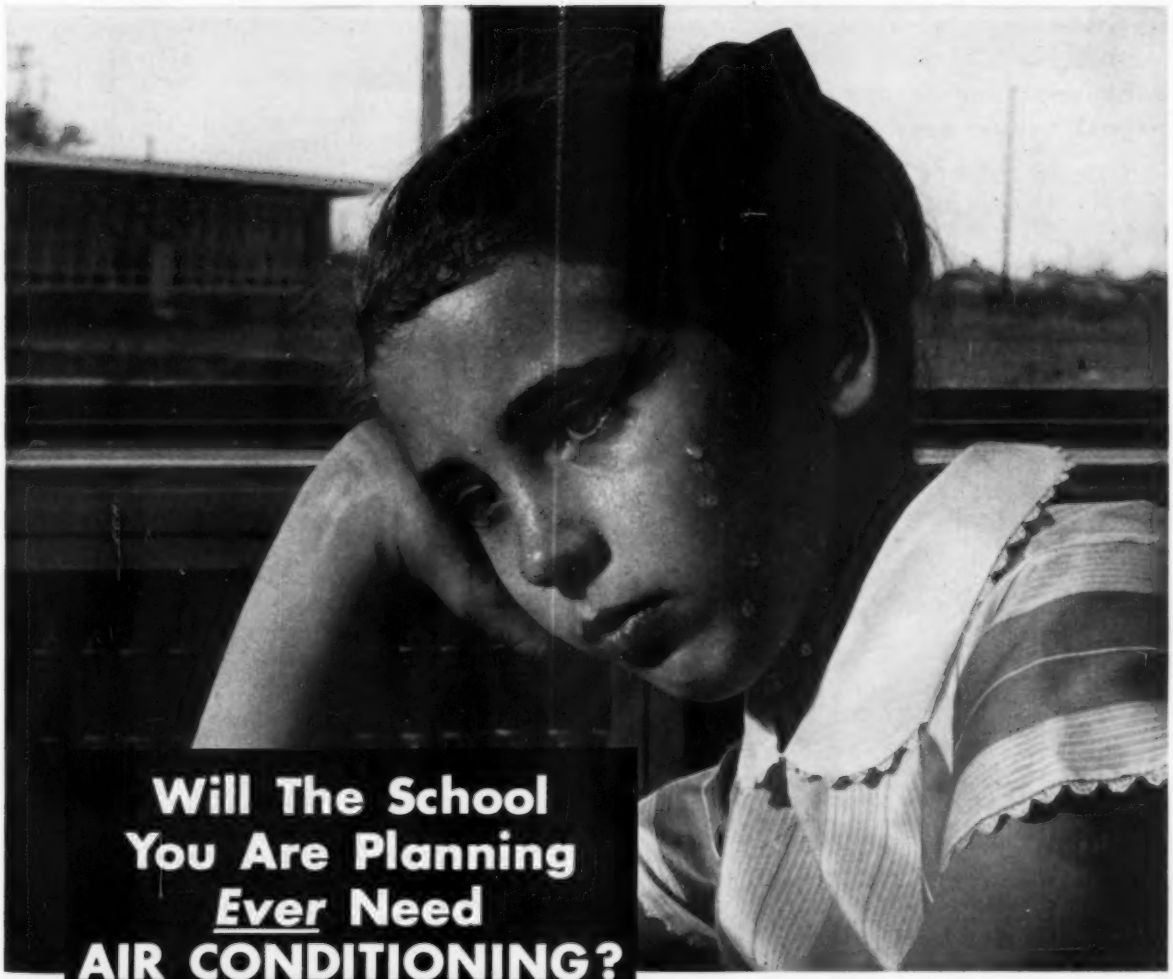
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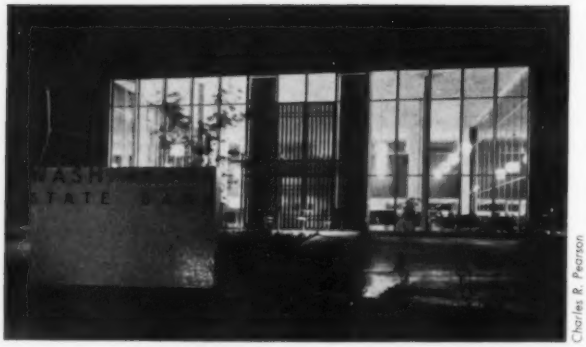
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NORTHWEST ARCHITECTS CHOOSE YEAR'S BEST BUILDINGS

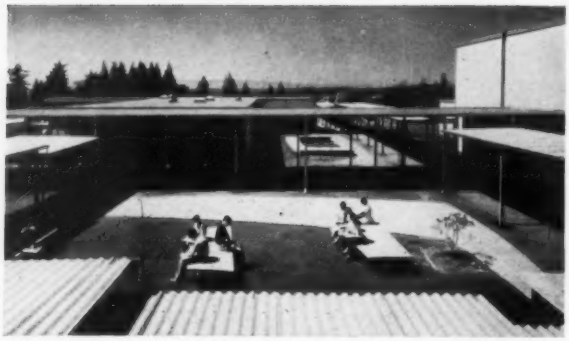
WASHINGTON: HONOR AWARDS

(Continued from page 48-10)



Charles R. Pearson

Bellevue Branch, Seattle First National Bank: Mithum & Nesland, architects



Art Hupy

Olympic View Junior High School, Mukilteo School District Number Six: Waldron & Dietz, architects



Art Hupy

Office Building Washington Conference, Seventh Day Adventist, Seattle: Robert J. Burman, architect

Up to 8 phone outlets in newest homes!...



Joseph A. Romano, well-known Fresno, Calif., contractor, likes to make sure his homes meet buyers' needs in every way. His custom-built homes, in the $21,000-$65,000 class, include 5 to 8 telephone outlets.

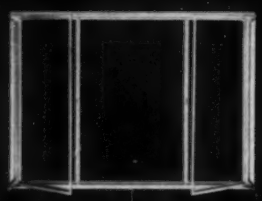
To Mr. Romano, complete telephone planning is a *must* in quality home construction. Buyers look for it, and in Mr. Romano's own words, "Meeting customers' demands is one of the best ways to successful selling. That's why some of my most recent homes have as many as 8 telephone outlets." And it's also why other leading Western architects and builders include concealed wiring and plenty of phone outlets in their original plans.

Pacific Telephone

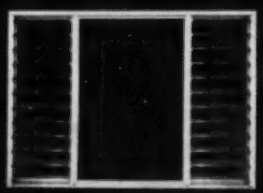
We'll be glad to help you plan built-in telephone facilities. Just call our business office and ask for our free Architects and Builders Service.

It pays to include Telephone Planning in every home you build!

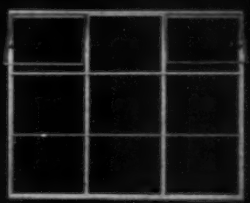
FOUR POPULAR STYLES



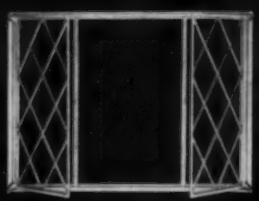
Bourne Aluminum Casements in a wide range of stock sizes.



Bourne Aluminum Jalousies for windows breezeways, porches.



Bourne Town & Country Windows for modern ranch house styling.

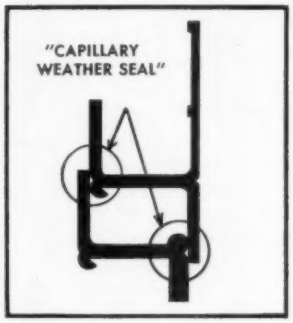


Bourne Diamond Patterns bring Old-World charm for modern homes.

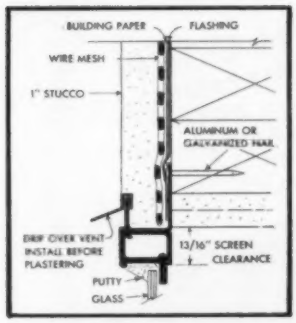
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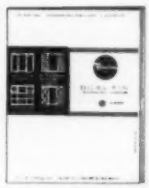
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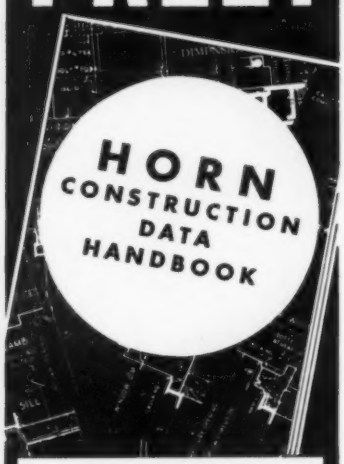
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(PLEASE PRINT CLEARLY)

L. A. PLANS FUTURE DOWNTOWN REBUILDING

The downtown urban business district is anything but dead, and a group of Los Angeles business leaders, appointed by the mayor to plan for the city's future, are out to prove that there's plenty of life in the old part of their town. The Central City Committee, with 35 members, expects that its plans, when completely carried out, will have rebuilt most of the two-and-a-half-square mile downtown business section within 50 years. As present buildings become obsolete, they will be replaced with super blocks, pedestrian ways, 40-story skyscrapers, underground tunnels for deliveries, and a mass rapid transit system.

The long-range plan is not a dream but a real working program, says Walter J. Braunschweiger, committee chairman. Money to implement it is no problem, he believes: "There's always money for this type of construction if there is sound planning and mortgages are backed up by satisfactory leases." Furthermore, new buildings would bring their owners a better return, he said, than do present buildings.

ARCHITECTS TOUR TO JAPAN

Kenneth Nishimoto, A.I.A., of Pasadena will again conduct the Architects' Tour to Japan which leaves San Francisco October 6 and returns October 30. The trip offers two days in Honolulu on the way out and 20 days in Japan.

On the itinerary are stops in Yokohama, Kamakura, Atami, Hakone, Osaka, Takarasuka, Kyoto, Nara, Nikko and Tokyo. Special attractions, besides the emphasis on architecture and the opportunity to meet Japanese architects and visit Japanese homes, include a performance of a traditional Kabuki play, attendance at the Jidai Matsuri festival, and gourmet meals at some of Japan's finest restaurants.

Full information is available from Kenneth Nishimoto, 263 South Los Robles Avenue, Pasadena, Calif.

PORTLAND'S E-R CENTER PLANNING STARTS

According to the time table set up by Skidmore, Owings & Merrill, architects appointed last spring for the Exposition-Recreation Center in Portland, construction should be under way within a year, if there are no delays. Programming has already started.

The budget for the multi-use center is $8,000,000, the amount voted two years ago by Portland residents. The center can be built for that amount, say the architects, but delays would make the cost run over. The project, authorized two years ago, has been held up because of disagreement over the site. A 22-acre site at the eastern end of the Broadway-Steel bridge was finally approved last year by a narrow margin of votes.

The center will provide an exhibition-hall-arena for conventions, rodeos, livestock shows, concerts, ice shows and other kinds of sporting events. Its seating capacity, largest in the Northwest, will be 12,500 for basketball games, 13,125 for conventions, concerts, boxing matches, etc. Smaller meeting and assembly rooms to accommodate groups of from 25 to 1000 persons will also be provided. Sixteen acres of the site will be used to provide parking for 2500 cars.

PROFESSIONAL NEWS

Honors and Awards

The School Executive has given honor awards to the Walnut Creek Elementary School, by John Lyon Reid and Partners, and to the Sonoma Elementary School, by Mario Ciampi. The Olympia Primary School in Daly City, also by Ciampi, received an honorable mention. Both schools are in California.

In appreciation of Pietro Belluschi's work as a consultant on the new Central Library in Seattle, the Washington State chapter, A.I.A., has presented Dean Belluschi with a piece of sculpture by sculptor George Tsutakawa, of the art faculty at the University of Washington. The sculpture was especially commissioned for the presentation.

New Fellows from the West

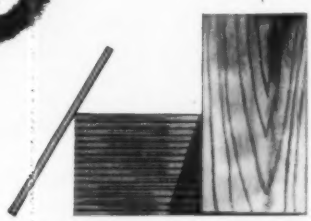
Twenty of the Institute's 48 new fellows are Westerners. They include Waldo B. Christenson, Seattle; Albert Frey, Palm Springs; Arthur B. Gallion, Los Angeles; Samuel W. Hamill, San Diego; William H. Harrison, Los Angeles; Douglas Honnold, Los Angeles; James M. Hunter, Boulder, Colo.; Donald B. Kirby, San Francisco; Frederick J. MacKie, Houston; Fred L. Markham, Provo, Utah; Charles F. Masten, San Francisco; Charles O. Matcham, Los Angeles; Frank V. Mayo, Stockton, Calif.; Francis Joseph McCarthy, San Francisco; Howard R. Meyer, Dallas; John Frederick Murphy, Santa Barbara; Ulysses Floyd Rible, Los Angeles; Whitney R. Smith, Pasadena; Paul R. Williams, Los Angeles; George J. Wimberly, Honolulu.



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"Can't get this dad-burned sliver o' wood to burn," rumbled Paul Bunyan to Babe, the Blue Ox. A mountain top trembled and fell, damming up a river. "Babe, what the cuss do you suppose them Baxter folks done to this here piece o' plywood? ✳She's dry—but she JEST DON'T BURN!"



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OBITUARY

Charles Sumner Greene

Charles Sumner Greene, the surviving partner of California's famous architectural firm of Greene and Greene, died June 11 in Carmel, Calif., where he had resided after retiring from active practice. He was 85 years old. His brother, Henry Mather Greene, died several years ago.

The Greenes collaborated so completely during the 20 years of their partnership — from 1894 when they came to California after graduating from M.I.T. until 1914 when they began to practice separately — that their work is usually evaluated as that of a single architect. Although their most beautiful achievements are their larger houses — the Blacker, Gamble and Culbertson houses in Pasadena and the Thorsen house in Berkeley, for instance — their most enduring contribution to the development of architecture in the United States — especially in California — is undoubtedly the "patio house." From the original "patio house" (the small Bandini house, designed in 1903) came, in time, the "California bungalow," a type of plan which swept the country between 1912 and the mid '20's.

Pioneers in detailing which is essentially "modern" (such as flush panel ceiling lights, doors without handles, waist-height kitchen work surfaces, overhangs to cut summer but not winter sun), the Greenes were at the same time masters of a dying art, that of the hand-crafted detail. When they realized that their way of building could no longer be achieved to the standards they had set, and when it became obvious that the cost of such building had become prohibitive, they retired and lived almost in seclusion for most of the remainder of their lives.

In 1948 the Southern California chapter, A.I.A., called them from retirement to present a Certificate of Merit to them, and in 1952 the national A.I.A. followed suit with a special citation to them for their "contribution to the shaping of our national architecture."

PROFESSIONAL NEWS

Mountain Region Architects to Discuss Nature in Architecture

Paul Rudolph will speak on "Plastic Design," Robert Alexander on "The Natural Site," Whitney Smith on "Nature and Design" and Welton Becket on "Organic Architecture" at the Western Mountain Region conference September 5–7 at Jackson Lake Lodge, Wyoming. John Shear, editor of ARCHITECTURAL RECORD, will be the banquet speaker.

California Architects to Hear Fuller, Candela

Inventor Buckminster Fuller and structural engineer Felix Candela head the list of out-of-state speakers on the program for this year's California Council, A.I.A. convention October 2–6 at Coronado. They will speak on "Design Through Structure." Californians Edgardo Contini and Richard Bradshaw, structural engineers, and Charles Bennett, planner, and Lawrence Halprin, landscape architect, will also speak.

Architects Honor San Francisco Mayor

For "vigorous and bold support and continuing efforts to further good planning, good design, and good architecture" Mayor George Christopher recently received a specially engraved centennial medal from the Northern California chapter, A.I.A. Projects cited by the chapter include a master plan for the Civic Center, Ferry Building Park, the new Hall of Justice and several redevelopment areas.

CALENDAR OF WESTERN EVENTS

• To August 31: Exhibition of plans for redevelopment of San Francisco Produce District and Ferry Building Plaza, San Francisco Public Library

• September 5–7: Western Mountain Region, A.I.A., conference, Jackson Lake Lodge, Jackson Hole, Wyo.

• October 2–6: California Council, A.I.A., annual convention, and California-Hawaii-Nevada Regional Council, Hotel del Coronado, Coronado, Calif.

• October 14–18: International Industrial Development Conference, Fairmont Hotel, San Francisco

• October 17–20: Northwest Region, A.I.A., annual conference, Gearhart Hotel, Gearhart, Ore.

• October 17–20: California Council of Landscape Architects, annual convention, Mark Thomas Inn, Monterey, Calif.

• October 29–31: Symposium on "Construction Cost Reduction through Creative Design and Engineering," U. S. Navy Civil Engineering Research and Evaluation Laboratory, Port Hueneme, Calif.

• October 31–November 2: Structural Engineers Association of California annual convention, Hotel del Coronado, Coronado, Calif.

• November 13–15: Eighth National Conference, American Standards Association, St. Francis Hotel, San Francisco

WESTERN SECTION

INDEX TO ADVERTISING

MANUFACTURERS' PRE-FILED CATALOGS

Catalogs of the firms listed below are available in the 1957 Sweet's Catalog Files as follows:

a — Architectural File (green)
ie — Industrial Construction File (blue)
le — Light Construction File (yellow)

a	Adams-Rite Mfg. Co.	48–8
	American Air Filter Co., Inc.	48–19
	Basalt Rock Co., Inc.	48–18
a-ie	Baxter, J. H. & Co.	48–23
	Bayer, A. J. Company	48–17
	Bellwood Company of California	48–16
	Bourne Products, Inc.	48–21
	Columbia-Geneva Steel Division	48–7
	Gladding, McBean & Co.	48–14
a	Horn, A. C. Co., Inc.	48–22
	Nelson, Herman Products	48–19
	Pacific Tel. & Tel. Co.	48–20
	Palos Verdes Stone	48–5
	Porcelain Enamel Publicity Bureau	48–6
	Smoot-Holman Company	48–9
a	Soulé Steel Company	48–12–13
a-ie	Sunbeam Lighting Co.	48–15
	Tamco Corporation	48–16
a-ie	United States Steel Corporation	48–7
	Weber Showcase & Fixture Co., Inc.	48–11

Western advertising offices: LOS ANGELES, Bob Wettstein, 672 S. Lafayette Park Pl.; PORTLAND, Bob Wettstein, 921 S. W. Washington St.; SAN FRANCISCO, Bob Wettstein, Howard Bldg., 209 Post St.

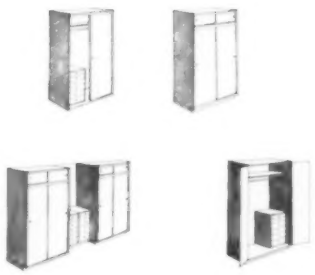


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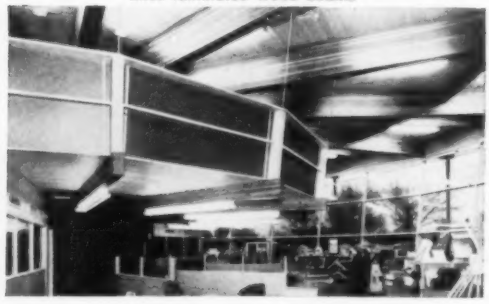
Architect: W. F. Bernbrock, Moline, Illinois

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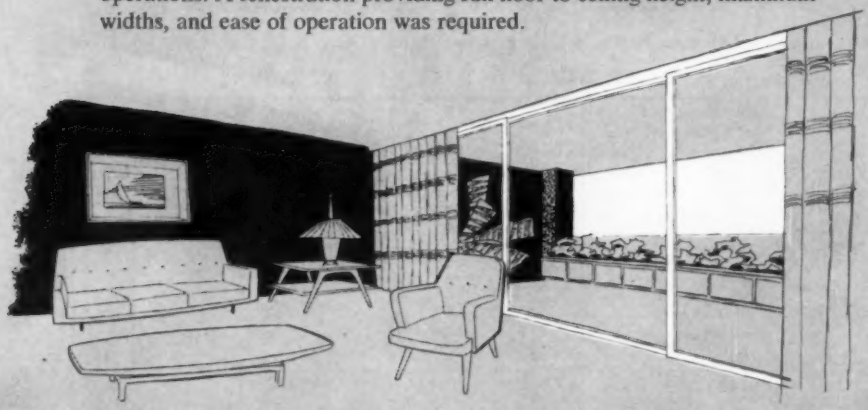
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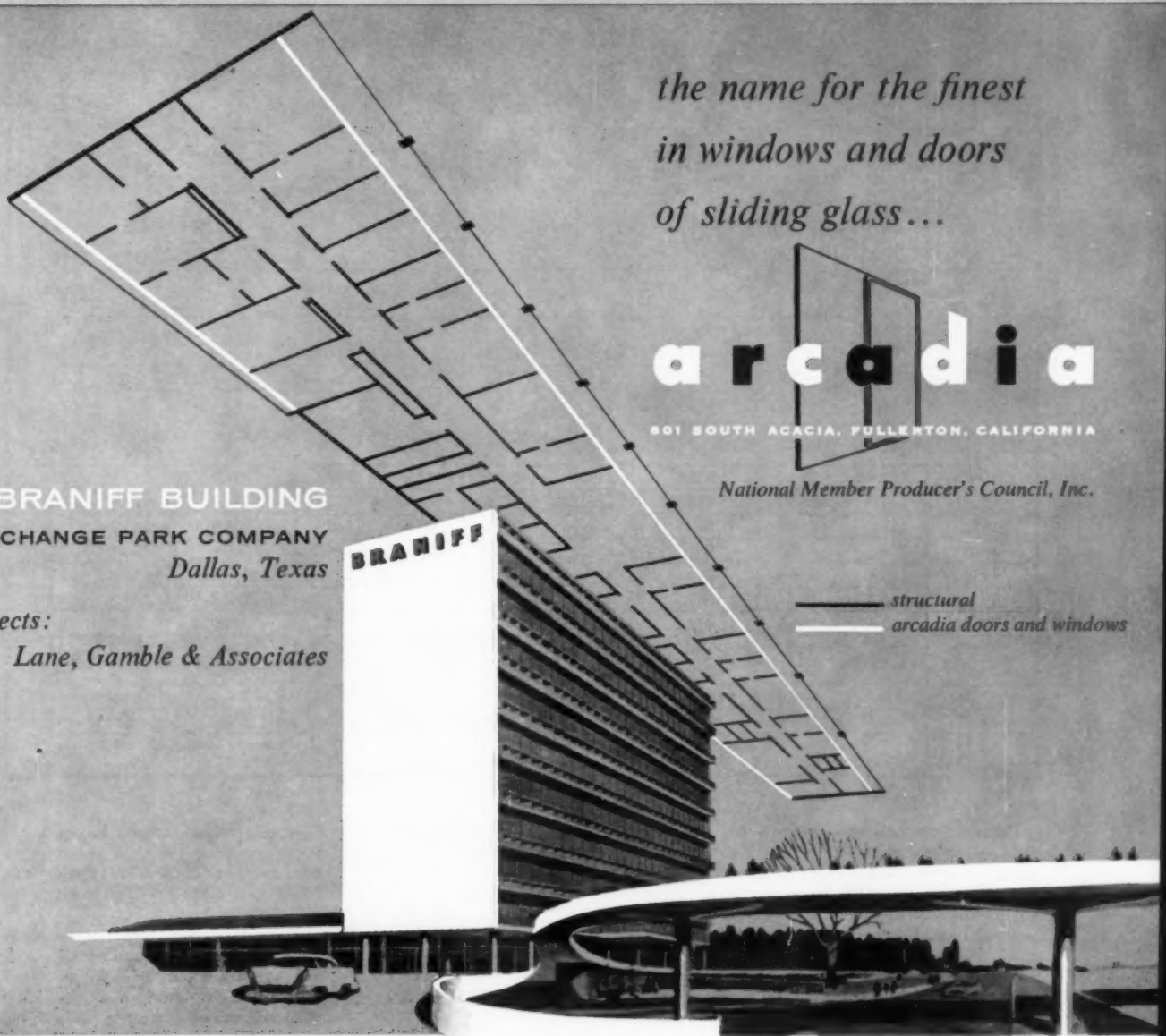
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THE RECORD REPORTS: CONSTRUCTION COST INDEXES

Labor and Materials — **U. S. average 1926–1929 = 100**

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.4	240.0
1950	256.2	254.5	249.5	251.5	248.0
1951	273.2	271.3	263.7	265.2	262.2
1952	278.2	274.8	271.9	274.9	271.8
1953	281.3	277.2	281.0	286.0	282.0
1954	285.0	278.2	293.0	300.6	295.4
1955	293.1	286.0	300.0	308.3	302.4
1956	310.8	302.2	320.1	328.6	324.5
Mar. 1957	316.5	306.5	329.5	341.2	335.1
Apr. 1957	316.5	306.5	329.8	341.8	335.4
May 1957	316.5	306.5	329.8	341.8	335.4
	% increase over 1939				
May 1957	156.3	150.4	152.2	156.2	157.8

ATLANTA

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
1951	212.8	214.6	204.2	202.8	205.0
1952	218.8	221.0	212.8	210.1	214.3
1953	223.3	224.6	221.3	221.8	223.0
1954	219.6	219.1	223.5	225.2	225.4
1955	225.3	225.1	229.0	231.5	231.8
1956	237.2	235.7	241.7	244.4	246.4
Mar. 1957	239.8	238.1	245.7	248.7	250.8
Apr. 1957	239.4	237.7	245.2	248.3	250.4
May 1957	239.8	238.0	245.9	249.2	250.7
	% increase over 1939				
May 1957	177.9	186.4	158.6	155.9	164.7

ST. LOUIS

1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
1951	252.0	248.3	238.5	240.9	239.0
1952	259.1	253.2	249.7	255.0	249.6
1953	263.4	256.4	259.0	267.6	259.2
1954	266.6	260.2	263.7	273.3	266.2
1955	273.3	266.5	272.2	281.3	276.5
1956	288.7	280.3	287.9	299.2	293.3
Mar. 1957	289.0	280.8	290.6	302.2	296.7
Apr. 1957	288.6	280.4	290.1	301.8	296.3
May 1957	292.0	283.6	294.4	306.8	300.6
	% increase over 1939				
May 1957	165.0	165.0	148.0	156.1	152.6

SAN FRANCISCO

1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
1951	245.2	240.4	239.6	243.1	243.1
1952	250.2	245.0	245.6	248.7	249.6
1953	255.2	257.2	256.6	261.0	259.7
1954	257.4	249.2	264.1	272.5	267.2
1955	268.0	259.6	275.0	284.4	279.6
1956	279.0	270.0	288.9	298.6	295.8
Mar. 1957	283.1	272.4	296.9	307.4	303.4
Apr. 1957	283.5	272.8	297.7	308.4	303.8
May 1957	286.7	274.4	302.7	315.6	309.6
	% increase over 1939				
May 1957	171.5	176.3	157.8	158.9	165.8

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.



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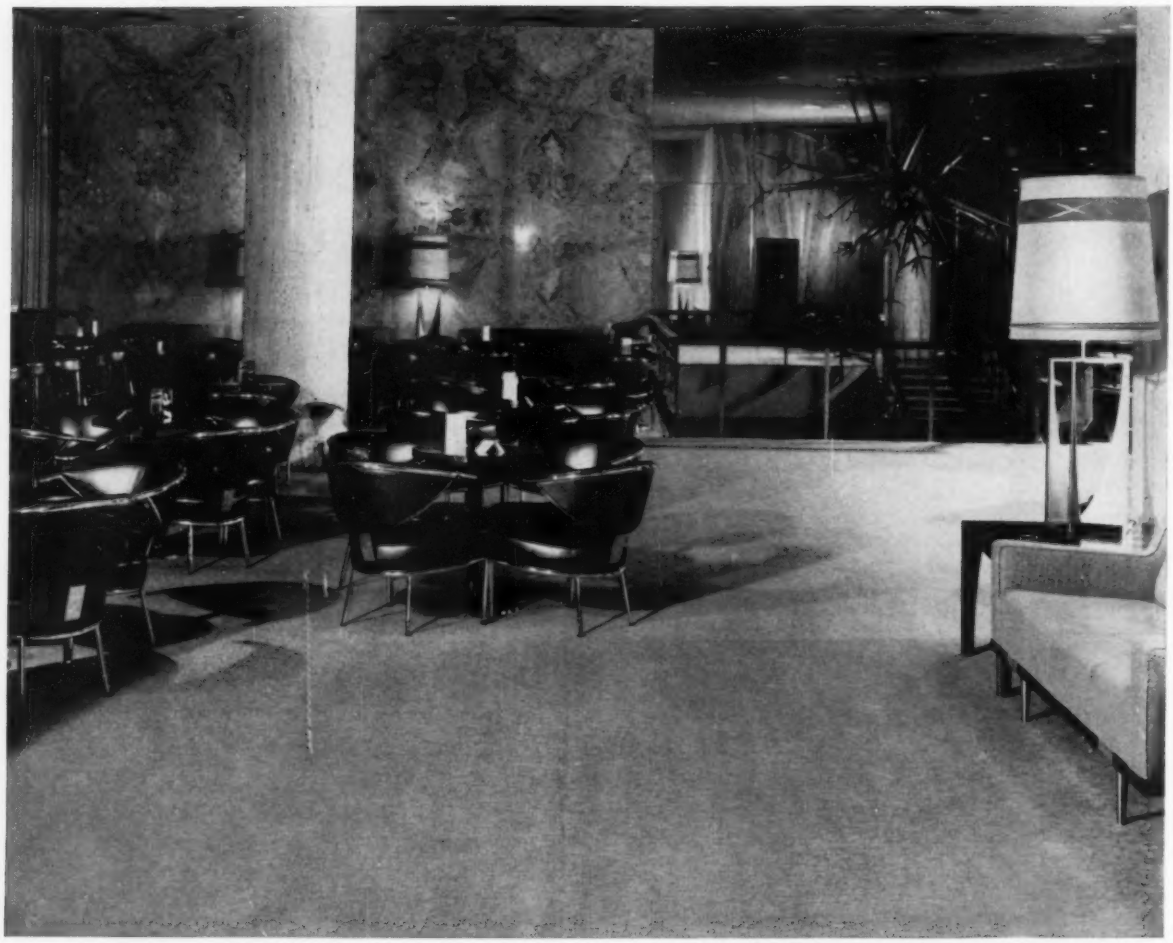
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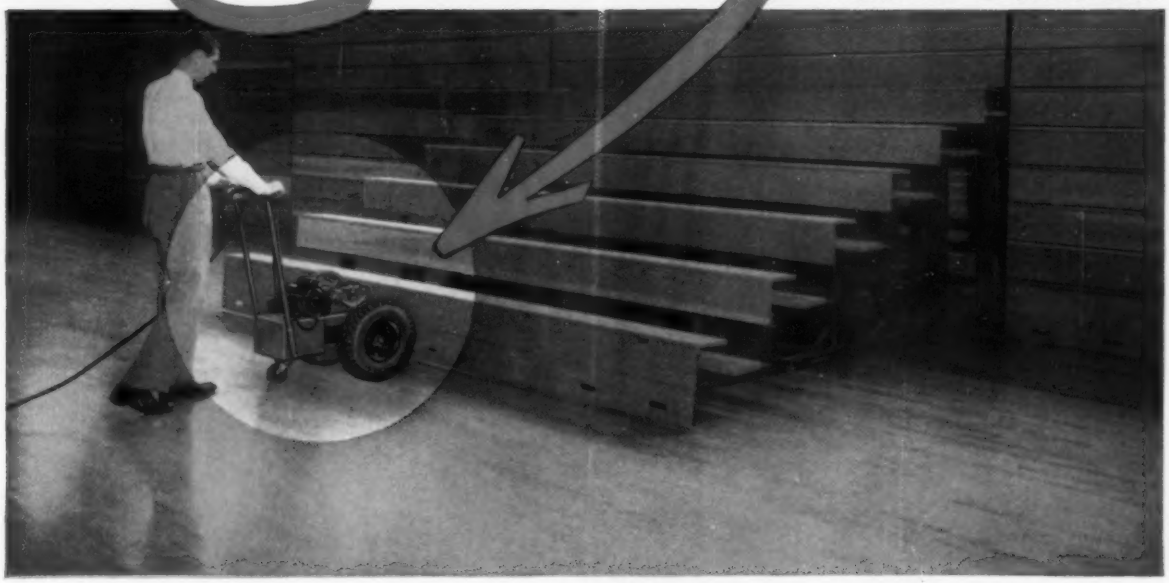
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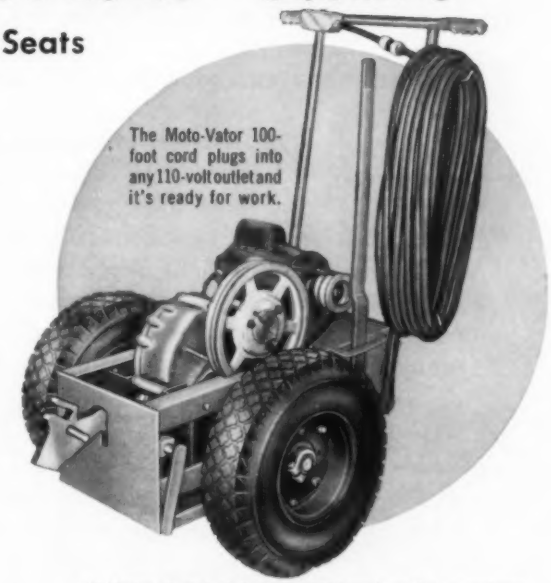
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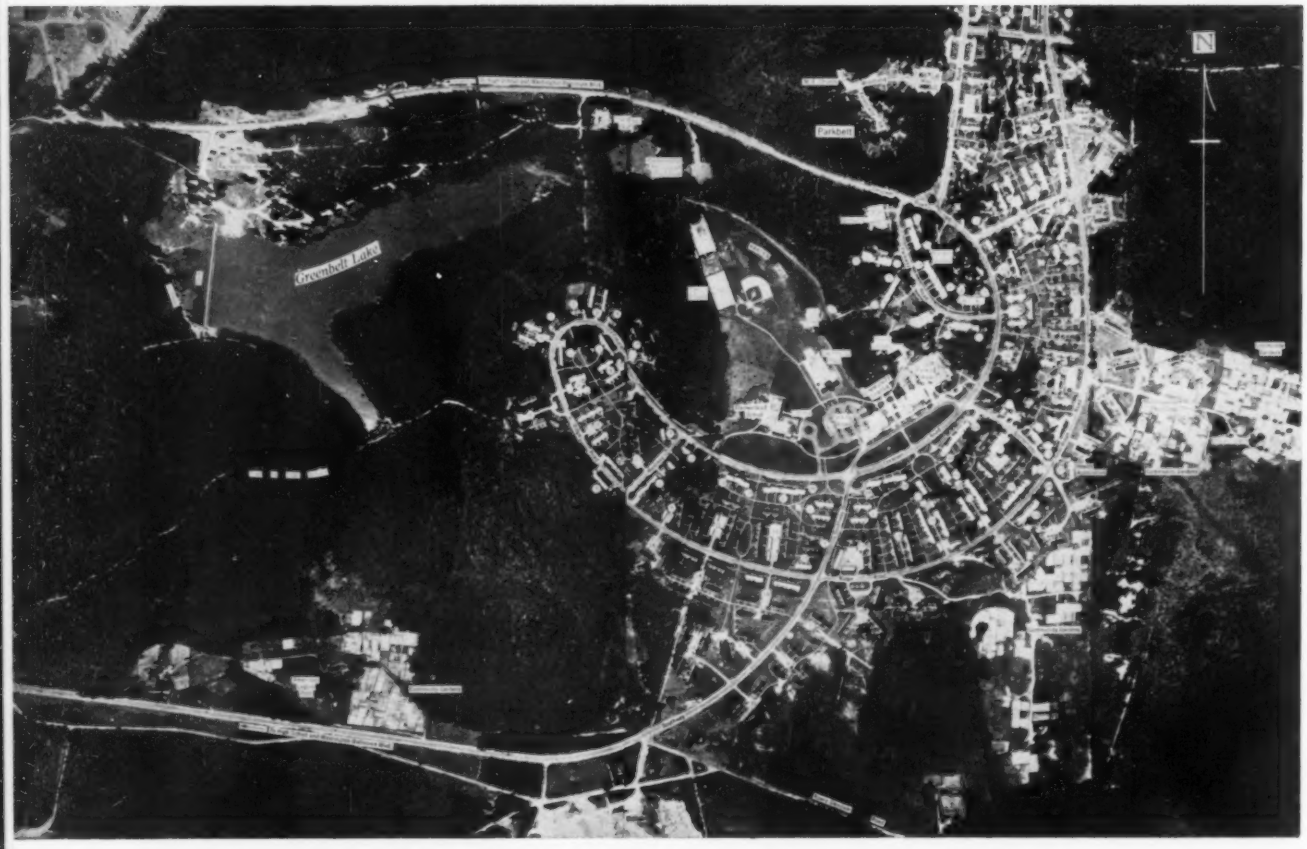
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". . . The Greenbelt Towns (Maryland) are the first experiments in the combined development of three basic ideas of the modern community: the Garden City, the Radburn Idea, and the Neighborhood Unit. . . ."

THE SEARCH FOR NEW URBAN PATTERNS

By ROBERT E. BARRACLOUGH, City Designer

Toward New Towns For America. By Clarence Stein. (Second Edition) Reinhold Publishing Corporation (N. Y.), 1957. 263 pp., illus., $10

AMERICAN CITIES ARE CHARACTERISTICALLY obsolete, ugly, chaotic and singularly lacking in individuality, being largely based on the grid street plan and monotone zoning. Living has changed more fundamentally in the past half-century than ever before, but the technological advances responsible for the change have not been matched by as great an improvement in our urban environment, where eighty per cent of our people spend ninety per cent of their time. Wholesale new urban patterns are long overdue.

Clarence Stein, basically an architect, has collected in *Toward New Towns For America* the fruits of experiments conducted with others in a search for modern urban forms suited to contemporary living. The quest has resulted in Sunnyside, Radburn, Chatham Village, Phipps Garden Apartments, Hillside Homes, the Greenbelt Towns, and Baldwin Hills Village — milestones in housing and planning. The Radburn Plan has been studied the world over, and provided a springboard for the recent new towns of Kitimat in Canada, Chandigarh in India and Vällingby in

(Continued on page 60)

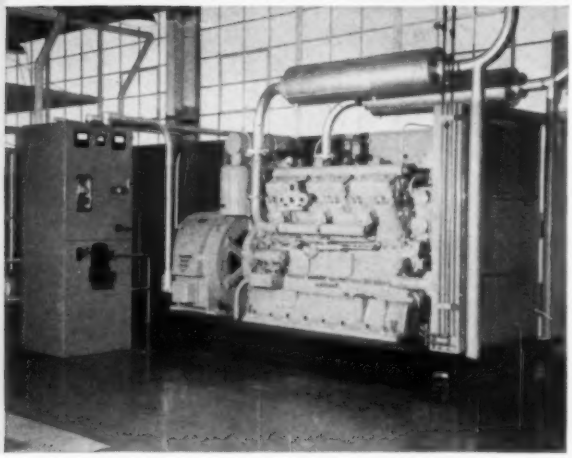


Is a hospital

really complete

without dependable

standby power?



Take this modern 400-bed institution—Ventura County General Hospital, in Ventura, California. You'd call it both well-planned and well-equipped. But when it first went into operation it lacked one vital factor—reliable standby power. The only emergency power available, in case of power-line failure, was some battery-operated spotlights and a small portable generator for use with the iron lungs.

Today there is a CAT* D397 Electric Set at Ventura County General. If a broken power pole, earthquake, flood or any other mishap interrupts service, this big diesel generator starts automatically and takes over the full load in seconds. The hospital can continue to use all its facilities—surgeries, iron lungs, x-ray, heating, air conditioning, kitchens, refrigeration and complete lighting—for minutes, hours or weeks if necessary.

In the hospitals *you* design, do you make provision for a sure source of emergency power? There are many cases on record where neglect of this factor has had serious results—inconvenience, suffering, even tragedy.

Caterpillar Dealers can furnish you with specifications on the full line of diesel electric sets they sell and service. Whatever power an institution needs, there are units to supply it—built with the rugged dependability that makes them first choice in their field.

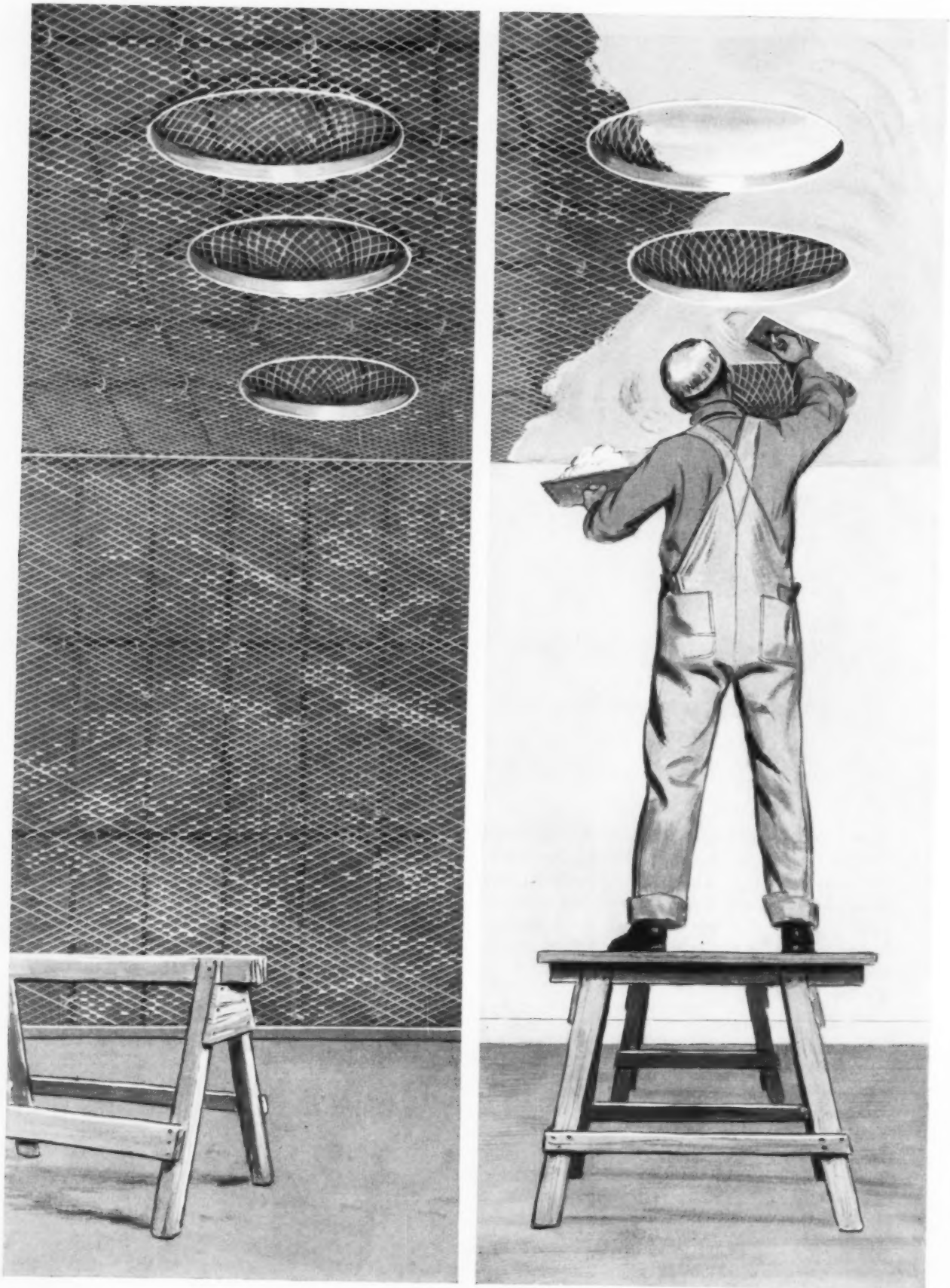
We suggest that you talk to your local Caterpillar Dealer and get the complete story for your files.

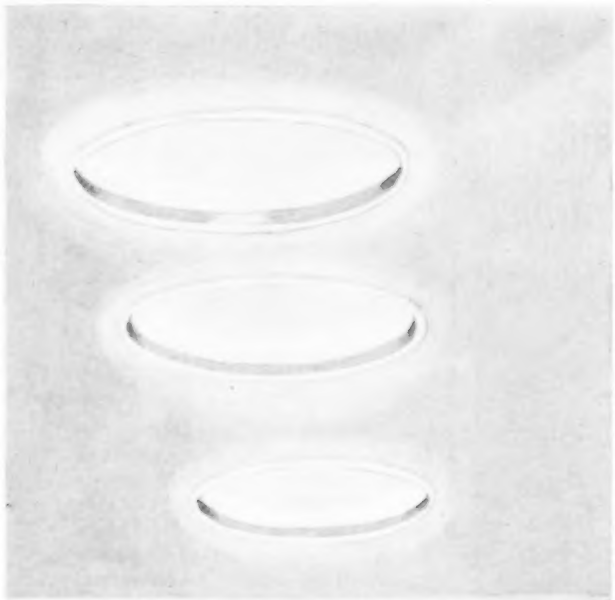
Caterpillar Tractor Co., Peoria, Illinois, U.S.A.

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Architects and builders have a natural ally in Wheeling Metal Lath. For this modern plaster base offers advantages found in no other type of construction.

For one thing, it permits an almost unlimited variety of design. It takes any shape, anywhere, and permits unhampered design freedom. Then, too, it's the strongest, most durable plaster base possible. And it holds plaster with a grip of steel come fire, flood or earthquake. Thousands of sturdy steel keying diamonds see to that.

Consider too the beauty that only Wheeling Metal Lath and plaster can give. Smooth, sleek, crack-free surfaces, surfaces that stay new-looking for years.

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The full line of Wheeling building materials includes SofTite Cop-R-Loy Galvanized Sheets, Steelcrete Reinforcing Mesh, ExM Gratings and Angle Frame Partitions, Tri-Rib Steel Roof Deck and Metal Lath and Accessories.

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...for schools, colleges, institutions

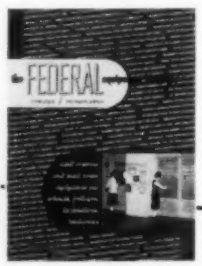




At Southern Methodist University, FEDERAL Lock-Type Letter Boxes simplify mail handling, assure privacy and security for student mail and communication.

(Left) FEDERAL Lock - Type Letter Box with combination lock in plain architectural style.

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SEE OUR CATALOG IN SWEET'S

THE FEDERAL EQUIPMENT COMPANY
Carlisle, Penna.
For 50 years your standard of quality

REQUIRED READING

(Continued from page 56)

Sweden (described in the April 1957 issue of ARCHITECTURAL RECORD). All the "Stein" projects have aged well and resisted blight. They are popular with their tenants not merely because of their low rents. Phipps boasts families extending over three generations. Chatham has had people on its waiting list longer than two years.

The book covers each project fully from the initial idea through the planning, financing and execution to a critical appraisal. Excellent photographs and plans support the text. Mr. Stein crystallizes his approach to tomorrow in the chapter, "Indications of the Form of the Future" — essential reading for all who have anything to do with building and cities. Lewis Mumford introduces the book with a very appropriate historical background to Stein's work.

The wastefulness of the grid-iron street plan, the inadequacy of existing block sizes, the unsuitability of today's streets for cars, the danger in not segregating pedestrians and motorists, the lack of nearby play-time space, the folly of overcrowding, the extravagance of niggardly initial investment with its built-in blight and high maintenance costs, the evil of consuming leisure-time in commutation, the archaicness and indignity of congestion, the negativeness of losing the individual in crowds, the short-sightedness of obliterating beauty, sunlight, openness and nature, and the poverty of present restrictive city planning are some of the problems that Stein and his colleagues strived to solve. The record shows that they went a long way in doing this.

Not that Stein was at any time satisfied with the as-built solutions. He is constantly looking for something beyond, a new, positive, city planning urban design that will start with people's needs at home: a living room with a park view; and from there extend to a garden flowing into a link in the chain of communal parks, which will serve as meeting grounds, play areas, places to relax; ways to schools, swimming pools, shops, and other community facilities; and not too far from this, industry and employment; all of this scaled to the pedestrian, cut off from the motor car (which will have its ample parking areas and efficient routes designed for flow and freedom from hazards). Facing the parks in this neighborhood unit will be housing types for young and old, single

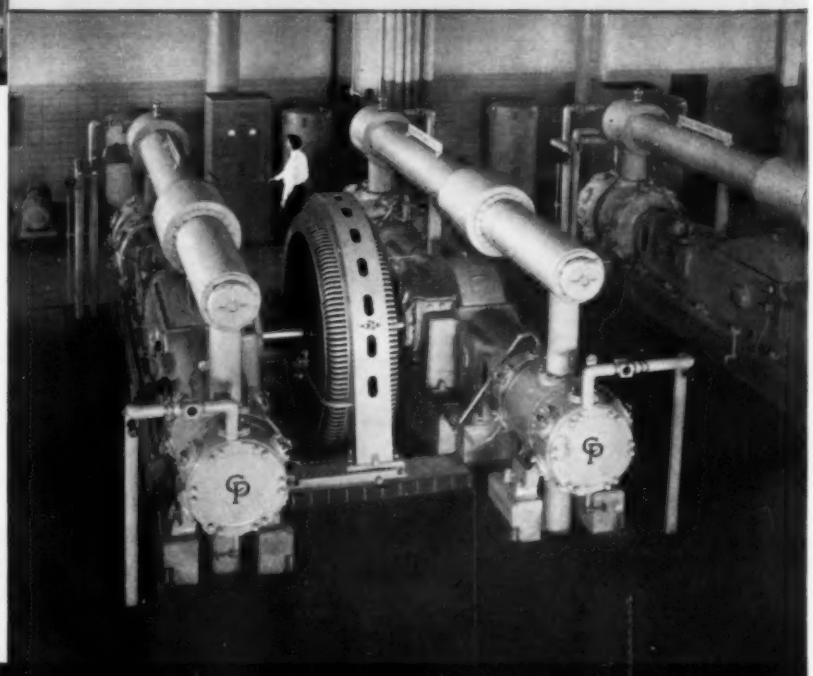
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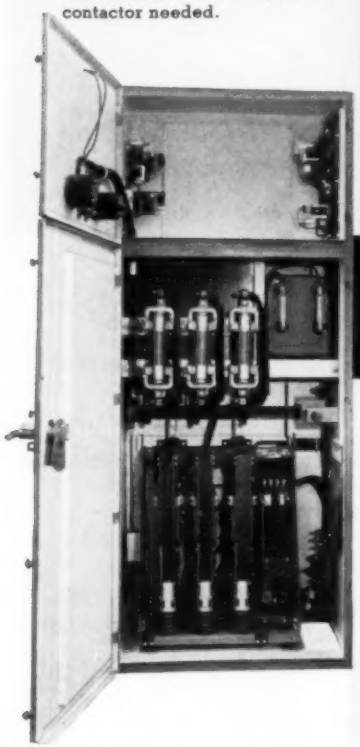


The most complete synchronous motor protection you can buy

Above and at right • Four EC&M 1000 HP, 2300 Volt Synchronous Starters on air-compressor drives in Chrysler Corporation's new Ohio Stamping Plant at Twinsburg. Purchased and installed by Hatfield Electric Co., Cleveland, Ohio.

Below • Inside view of starter showing compact arrangement of fuses and contactor. The three arc shields slide out for quick access to both front and rear contacts — no draw-out of contactor needed.





EC&M 2200-4800 VOLT STARTERS

• A push of the "start" button gives you complete protection during starting and running—*plus* EC&M *fully automatic synchronization.* Throughout the entire sequence, motor windings are completely protected and synchronization occurs at the most favorable time. Should the motor pull out of step because of voltage dip or overload, the field is automatically removed. Re-synchronization occurs when the motor re-accelerates the load. Short circuit protection is provided by current-limiting power fuses working in conjunction with EC&M's *"certified"* high-interrupting-capacity ZHA air-break contactor.

For complete details...

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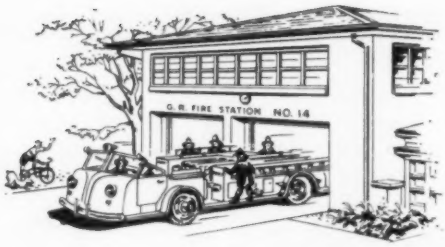
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A DIVISION OF THE SQUARE D COMPANY

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when seconds count...





FIRE STATIONS COUNT ON RO-WAY DOORS

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Fire stations the country over depend on Ro-Way overhead type doors for instant action, smooth operation, rugged dependability. And these qualities find ready acceptance for warehouses, commercial garages, freight terminals, service stations and other commercial and industrial applications.

Ro-Way sectional doors are engineered for long life. Built of selected lumber and Masonite® Dorlux® panels. Glued and steel doweled mortise and tenon joints give added strength. Seal-A-Matic hinges and Taper-Tite tracks lock out even the worst weather yet permit instantaneous opening—fast, quiet operation on ball bearing rollers . . . all the work done by big, Power-Metered springs. Heavy-gauge hardware resists rust and corrosion because it's both Parkerized and painted after fabrication in Rowe's factory.

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Complete details, drawings, etc. on the entire Ro-Way line. A big help in selecting the right door. Ask for manual 55.

there's a Rō-WAY for every Doorway!

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Rō-Way
OVERHEAD TYPE DOORS

ROWE MANUFACTURING COMPANY
1287 Holton Street • Galesburg, Illinois





Built for his own occupancy by a prominent Midwest business man, this beautiful residence embodies the most advanced practices in modern home construction. Not one nail, not one piece of wood was used anywhere! From basement to roof, from wall to wall, the entire structure is of Vibrapac Block and masonry supplemented by steel and glass. Completely fireproof, the home is one of the few in its area so rated by the insurance inspection bureau. It is also ruggedly resistant to storm, heat, cold, moisture and aging.

As usual, the many patterns and sizes available in Vibrapac Block made possible a variety of beautiful effects, especially indoors. Basket weaves, ashlar design, vertical and horizontal stacking and other treatments were applied with notable artistry . . . setting this home apart as one of the most distinctive to be seen anywhere today. Particularly noticeable are the restful tones of the block and the subdued quiet of all parts of the home.

Modular sizes, and the ease and speed with which Vibrapac Block can be laid, provided this home owner with marked savings in time, labor and materials. Vibrapac Block offers many construction, sales and profit advantages for your customers also. Complete literature on request. Write

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1st in Concrete Block Machines



Proper selection of units, plus careful workmanship, had much to do with the charm and beauty of this Vibrapac Block home.



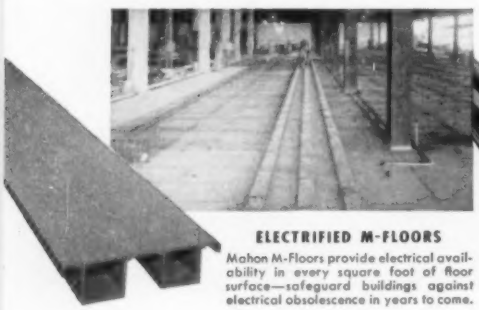
Exposed masonry walls add a touch of beauty to the interior. Even the fireplace is constructed of Vibrapac masonry units.

A7-127

M-DECKS Broaden the



Above is a Typical Installation of a Mahon Long Span M-Deck Roof with Acoustical Ceiling in a modern High School. At right is a Cross Section of this type of Combined Roof-Ceiling Construction showing Troffer Sections included for Recessed Lighting.



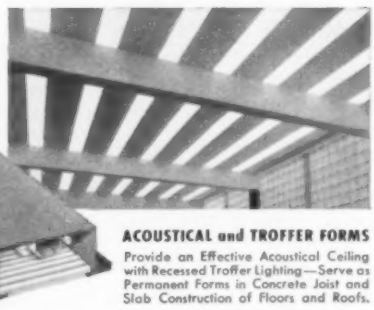
ELECTRIFIED M-FLOORS

Mahon M-Floors provide electrical availability in every square foot of floor surface—safeguard buildings against electrical obsolescence in years to come.



CONCRETE FLOOR FORMS

Mahon Permanent Concrete Floor Forms in various types meet virtually any requirement in concrete floor slab construction over structural steel framing.



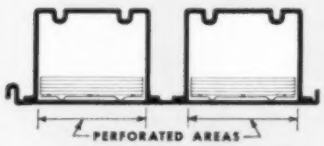
ACOUSTICAL and TROFFER FORMS

Provide an Effective Acoustical Ceiling with Recessed Troffer Lighting—Serve as Permanent Forms in Concrete Joist and Slab Construction of Floors and Roofs.

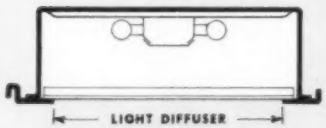
Functional Potential of a Modern Roof

. . . Mahon Long Span M-Decks Expand the Structural Roof's Function to Include the Finished Ceiling Material, Acoustical Treatment, and Recessed Lighting as Well!

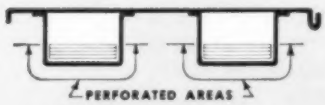
MAHON
ACOUSTI-STRUCTURAL
LONG-SPAN M-DECK SECTIONS



SECTION M2SR (Acoustical)



SECTION M1ST (Troffer)



SECTION M2 (Acoustical)



SECTION M3 (Acoustical)

MAHON
LONG SPAN OPEN BEAM **M-DECK**


SECTION M1-OB

In auditoriums, armories, sports arenas, field houses, churches, or any other type of building where exposed truss or rigid frame construction is employed, Mahon Cellular Steel M-Decks provide the structural roof and ceiling combined . . . the structural M-Deck Sections span from wall-to-wall or from truss-to-truss. This eliminates the cluttered effect of roof purlins and produces a neat, continuous, flat metal ceiling surface—all of which can be acoustically treated. If recessed lighting is desired, Mahon Troffer Sections can be included in this type of roof-ceiling construction in any ratio to meet specific lighting requirements.

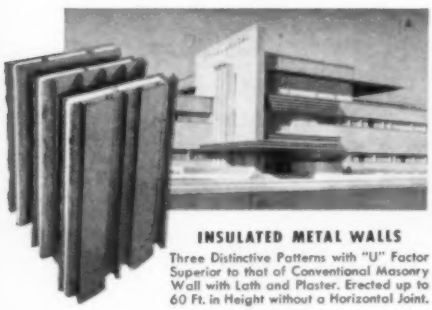
Mahon Long Span M-Deck Sections and Mahon Troffer Sections are roll-formed from galvanized, structural quality steel . . . they are permanent, cellular structural units which also provide an indestructible ceiling. Exposed metal surfaces which form the ceiling can be readily painted to match or harmonize with any interior decor.

All Mahon Long Span M-Deck Sections can be furnished with bottom metal perforated and sound absorbing material inserted to provide a highly effective acoustical ceiling . . . Noise Reduction Coefficients range up to .85 in the various Mahon M-Deck Sections recommended for this use.

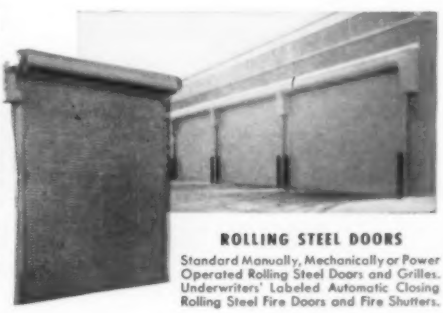
Some of the newer Mahon Sections do not appear in the current Sweet's File. Why not have a Mahon sales engineer call and bring you up to date on new Mahon Cellular Steel Sections now available for Floor, Roof, and Combined Roof-Ceiling Construction.

THE R. C. MAHON COMPANY • Detroit 34, Michigan
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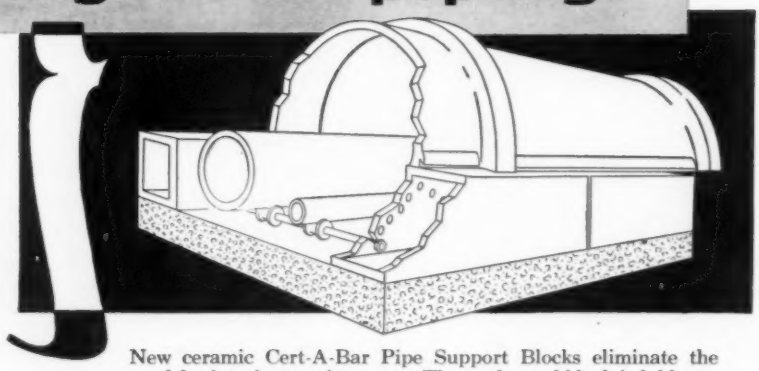

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Three Distinctive Patterns with "U" Factor Superior to that of Conventional Masonry Wall with Lath and Plaster. Erected up to 60 Ft. in Height without a Horizontal Joint.


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Mahon Metalclad Fire Walls carry two Hour Rating by Underwriters' Laboratories, Inc., for Use as Either an Interior Dividing Fire Wall or an Exterior Curtain-Type Fire Wall.


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Standard Manually, Mechanically or Power Operated Rolling Steel Doors and Grilles. Underwriters' Labeled Automatic Closing Rolling Steel Fire Doors and Fire Shutters.

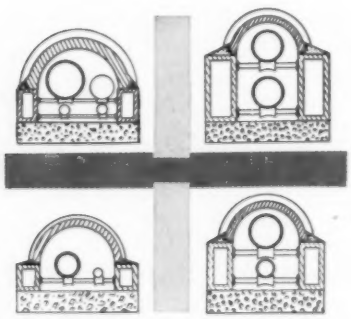
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New ceramic Cert-A-Bar Pipe Support Blocks eliminate the need for interior cast iron rests. The perforated block is laid as a structural support member at regular intervals, and the bars are simply inserted and locked in place.

THE vital consideration in selecting an underground conduit system is *permanent* protection . . . not for one year or five, *but for the life of the piping.* You get the best possible protection for your underground metal service piping with a Stillwater Conduit System of vitrified clay. It's chemically inert—can't rust, rot, corrode, or decay . . . ever. And it is manufactured in accordance with ASTM specification C-13-54, assuring proper strength and quality. Any combination of service piping can be protected. Conduit is available in a wide range of sizes, with a complete line of fittings and accessories, including alignment guides, lateral guides, and anchors. Any contractor's crew can handle the installation easily, or if you prefer, Stillwater Licensed Installers will assume the responsibility. The Cert-A-Bar Tunnel System can be installed with any of three suggested new waterproofing specifications —one for average conditions, one for intermittent ground water conditions, and a third for high water table conditions. It's the lowest-cost conduit per year of service that you can specify or install!



THE CERT-A-BAR SYSTEM HAS ALL THESE IMPORTANT ADVANTAGES

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A few of the hundreds of possible combinations of piping for the Cert-A-Bar Tunnel System are shown at left.

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Mr. Winters discusses the details of every home he builds with the people who will be living in it. Telephone facilities are planned for the future as well as the present.

"Concealed telephone wiring belongs in personalized homes"

—says Mr. O. C. Winters, Custom Builder of Indianapolis, Indiana

"It's good business to give customers what they need," says Mr. Winters, "and that includes concealed telephone wiring. The desire for planned and built-in telephone facilities is growing markedly. It's part of the trend of the times towards more livable homes.



A home built by Mr. Winters. Concealed telephone wiring is one of its distinguishing sales features.

"People are discovering that concealed telephone wiring preserves the beauty of their rooms as well as adding great convenience. They're favorably impressed with the architect or builder who plans on it for them.

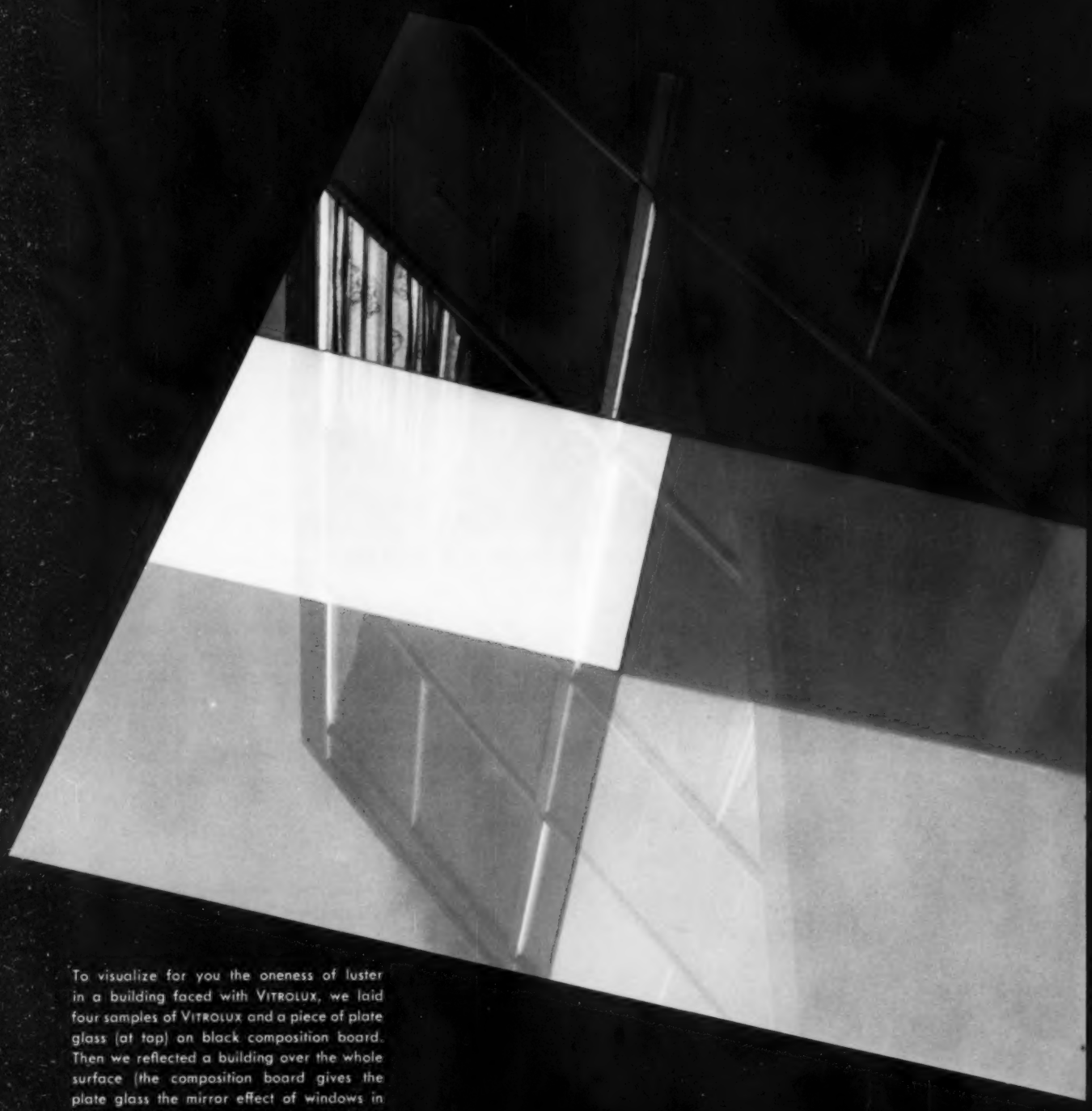
"Concealed telephone wiring belongs in personalized homes, and I know from experience that it helps sell them."

• • •

Your nearest Bell Telephone business office will help you with concealed wiring plans. For details on home telephone wiring, see Sweet's Light Construction File, 8i/Be. For commercial installations, Sweet's Architectural File, 32a/Be.

Working together to bring people together
BELL TELEPHONE SYSTEM

in curtain walls . . .



To visualize for you the oneness of luster in a building faced with VITROLUX, we laid four samples of VITROLUX and a piece of plate glass (at top) on black composition board. Then we reflected a building over the whole surface (the composition board gives the plate glass the mirror effect of windows in buildings). Note the unity in the reflections in both the "window" and spandrel areas.

. . . . . what could go better with windows than glass?

AND YOU HAVE 16+COLORS TO CHOOSE FROM IN VITROLUX® GLASS FACING

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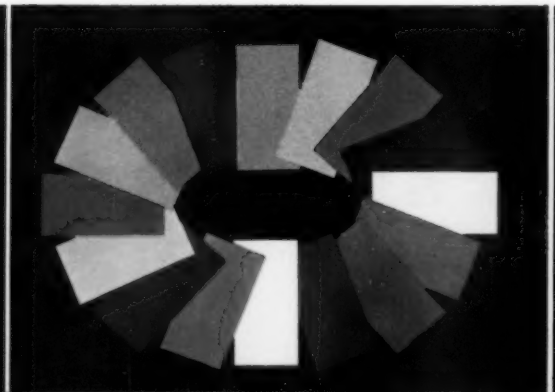
Cost? Less than most spandrel materials, installed.

Write for descriptive folder and specifications. Libbey·Owens·Ford Glass Company, 608 Madison Avenue, Toledo 3, Ohio.

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VITROLUX GLASS FACING

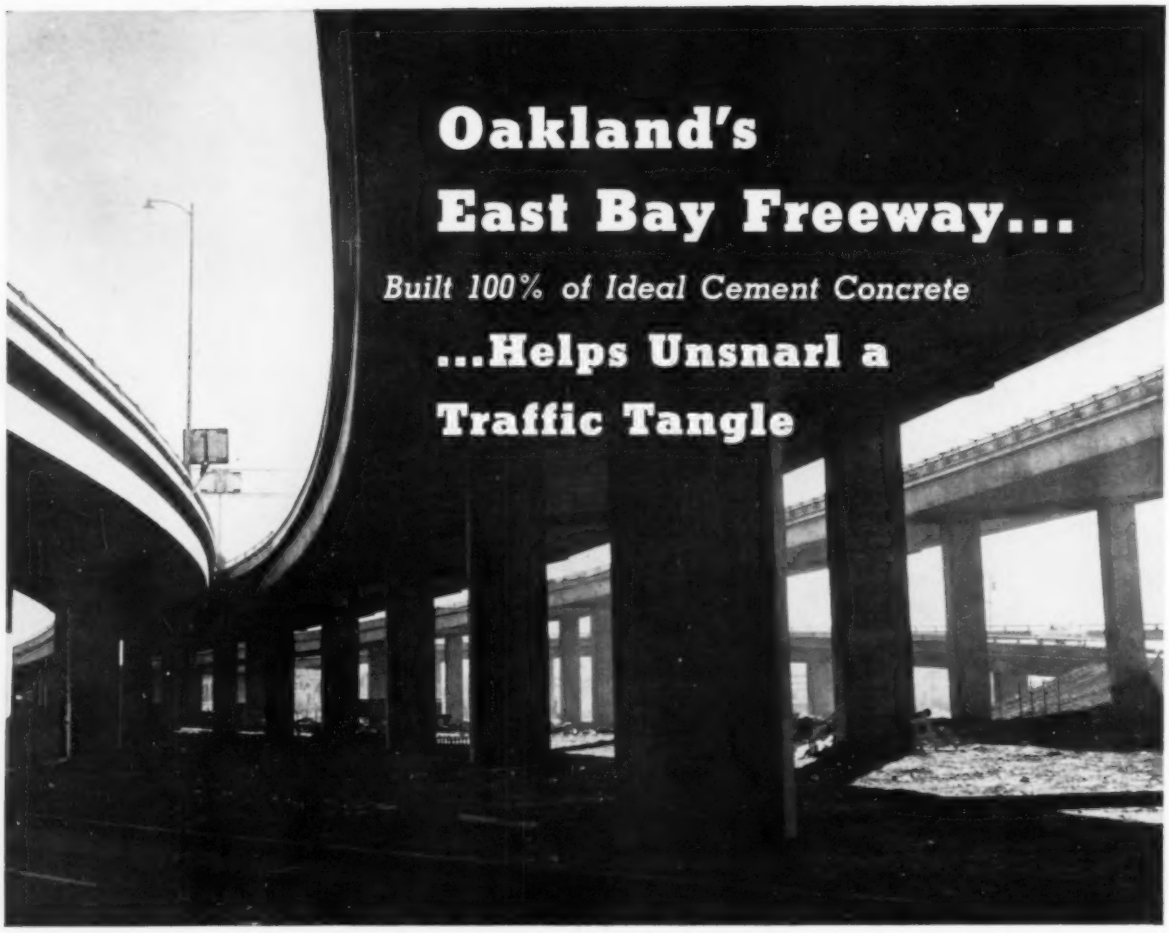
LIBBEY·OWENS·FORD *a Great Name in Glass*



16 + COLORS

In 16 standard colors*, plus black and white. Also, nonstandard colors as identified in the Manual*, subject to manufacturing limitations.

*Keyed to the Container Corporation of America Color Harmony Manual.



To solve a growing traffic problem at the east end of San Francisco's Bay Bridge, Oakland's East Bay Freeway has been developed.

This multilevel, massive concrete structure is a joint venture of Grove, Shepherd, Wilson, and Kruge, general contractors of Seattle, Washington.

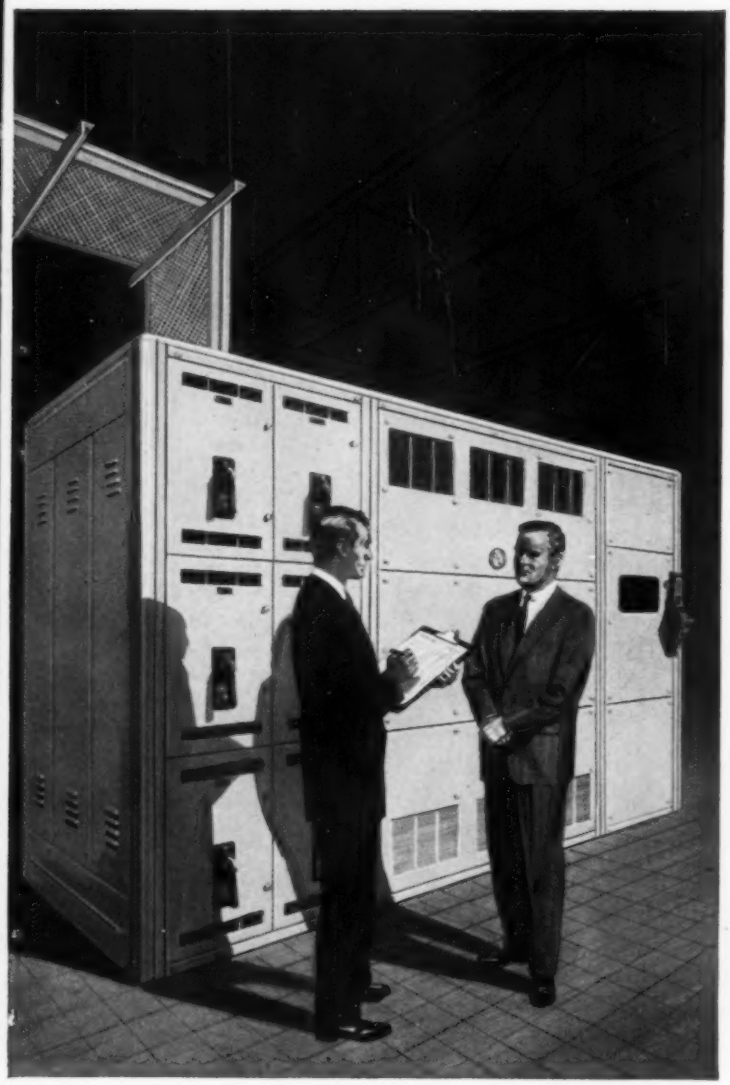
Reinforced concrete was the logical construction material for the East Bay Freeway because of its pleasing appearance, first-cost economy, freedom from maintenance, and ready availability of materials regardless of the rate of use. Portland cement for the job was furnished from Ideal's Redwood City plant, strategically located on deep water directly across San Francisco Bay from the construction site.

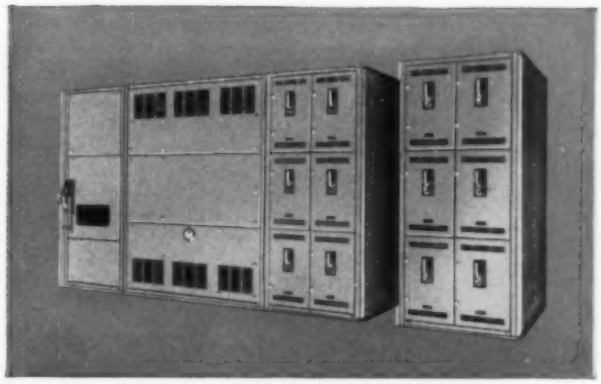
For freeway and elevated highway construction jobs everywhere, reinforced concrete should always receive consideration wherever the elements of beauty, long-range economy, and availability of materials are important.

PORTLAND IDEAL CEMENT

IDEAL CEMENT COMPANY

14 Plants and 2 Cement Terminals Serving the Nation, Coast to Coast and Border to Border





Standardized construction of BullDog Unit Substations allows for easy expansion. Units are interchangeable. Changes and additions can be made quickly and economically. The substations are of the secondary type . . . rated up to 600 volts . . . and are available with all types of transformer equipment.



BullDog field engineers offer specialized help in preparing a system tailored to your present and future power needs. They have the knowledge and experience to co-ordinate top-quality, creatively engineered BullDog products into an integrated, efficient electrical system that stays modern.

Plan your power for production results!

New BullDog secondary Unit Substations answer vital needs in the operation of modern industrial plants. They bring the overall economies of high-voltage distribution—plus providing adequate facilities for future expansion. And by bringing higher voltages closer to consuming equipment, Unit Substations boost machine efficiency to maximum productivity. Valuable floor space is saved, too, through an integrated unit which houses transformer, switchgear and other components.

Let the BullDog field engineer give you all the facts—show you how Unit Substations are the starting point of a *planned* power system by BullDog, which adds materially to plant safety, economy, and production efficiency!

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BullDog Electric Products Company, Detroit 32, Michigan • A Division of I-T-E Circuit Breaker Company • *Export Division:* 13 East 40th St., New York 16, N.Y. *In Canada:* BullDog Electric Products Co. (Canada), Limited, 80 Clayson Rd., Toronto 15, Ont.

IF IT'S NEW...IF IT'S DIFFERENT...IF IT'S BETTER...IT'S

BULLDOG

ELECTRIC PRODUCTS COMPANY

A DIVISION OF I-T-E CIRCUIT BREAKER COMPANY



Architect: Perry, Shaw, Hepburn & Dean, Boston; *structural engineer:* Maurice A. Reidy, Boston; *builder:* McCloskey & Co., Philadelphia.

PHILADELPHIA'S NEW SHERATON HOTEL HAS 16 STORIES OF OPEN-WEB JOISTS

Centrally located in downtown Philadelphia's Penn Center is the magnificent new Sheraton Hotel, opened to the public early in 1957.

The new Sheraton provides 1,000 guest rooms, with one floor, the twenty-first, entirely given over to balconied luxury suites. Parking for guests' automobiles is handled in a 1,000-car garage just across Pennsylvania Boulevard, and connected to the hotel by an underground concourse.

Bethlehem Open-Web Steel Joists were used in the floor construction of the new Sheraton Hotel from the sixth floor to the twenty-first floor, inclusive.

The advantages of using Bethlehem Joists were many. They were delivered to the job site tagged and ready for immediate placing, with no delays to the construction schedule. They required only field welding to secure them permanently in place, forming a rigid, permanent floor structure, which will help to hold future maintenance to a minimum. And used in combination with floor slab and plaster ceiling, Bethlehem Open-Web Steel Joists help provide a fire-resistant building construction.

Bethlehem Open-Web Steel Joists, Shortspan Series, conform in all respects to the Steel Joist Institute Standard Specifications for Open-Web Steel Joist Construction and they are fully approved by the Steel Joist Institute. They conform, also, to the Simplified Practice Recommendation R94-53 of the Department of Commerce.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM OPEN-WEB STEEL JOISTS

BETHLEHEM STEEL



H&C NO. 16 DIFFUSAIRE® . . .

WITH H&C NO. 18 ADAPTER SQUARE

H&C NO. 92 VHV TRIPL-AIRE® MULTI-DEFLECTION REGISTER. Vertical face bars, horizontal secondary bars, vertical louvers.

NO. 94A FIXT-AIRE® GRILLE. Horizontal face bars set at 22° angle to conceal duct.

for IDEAL AIR DISTRIBUTION IN ALL COMMERCIAL AIR CONDITIONING INSTALLATIONS

The H&C No. 16 (step-down type) Ceiling Diffusaire, and its companion piece No. 15 (flush type) Diffusaire give you full 360°, draftless air distribution, particularly important in cooling. And with the H&C ADAPTER SQUARE, which harmonizes perfectly with acoustical tile ceilings, you have the "Round and Square" diffuser problem completely licked. There's no necessity of stocking more than one type diffuser. A butterfly damper with screwdriver adjustability from below is available with these diffusers.

For all other installations H&C TRIPL-AIRE and FIXT-AIRE Registers and Grilles provide every desirable factor entering into the achievement of perfect air conditioning: There are 10 types, 26 standard sizes of single and multi-deflection Grilles and Registers . . . providing 260 possible horizontal and vertical deflection combinations . . . plus a wide range of intermediate sizes. Consequently, there's never a need to compromise . . . the EXACT deflection is always available to you. Perfect volume control, equal distribution over the entire register face, "Decorator Gray" finish and prompt deliveries are other features that contribute to total satisfaction.

CONVENIENT CATALOG GIVES COMPLETE DETAILS AND ENGINEERING DATA. AVAILABLE FROM H&C JOBBERS OR DIRECT FROM US.

H&C

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MANUFACTURING CO.

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WORLD'S LARGEST PRODUCERS OF REGISTERS and GRILLES

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Inner and outer Jamison Sound Reduction Doors on engine test cell. Single doors provide access to cell by personnel. Double doors for movement of equipment.

Tests prove Jamison Sound Reduction Doors reduce unwanted noise by an average of 50 decibels

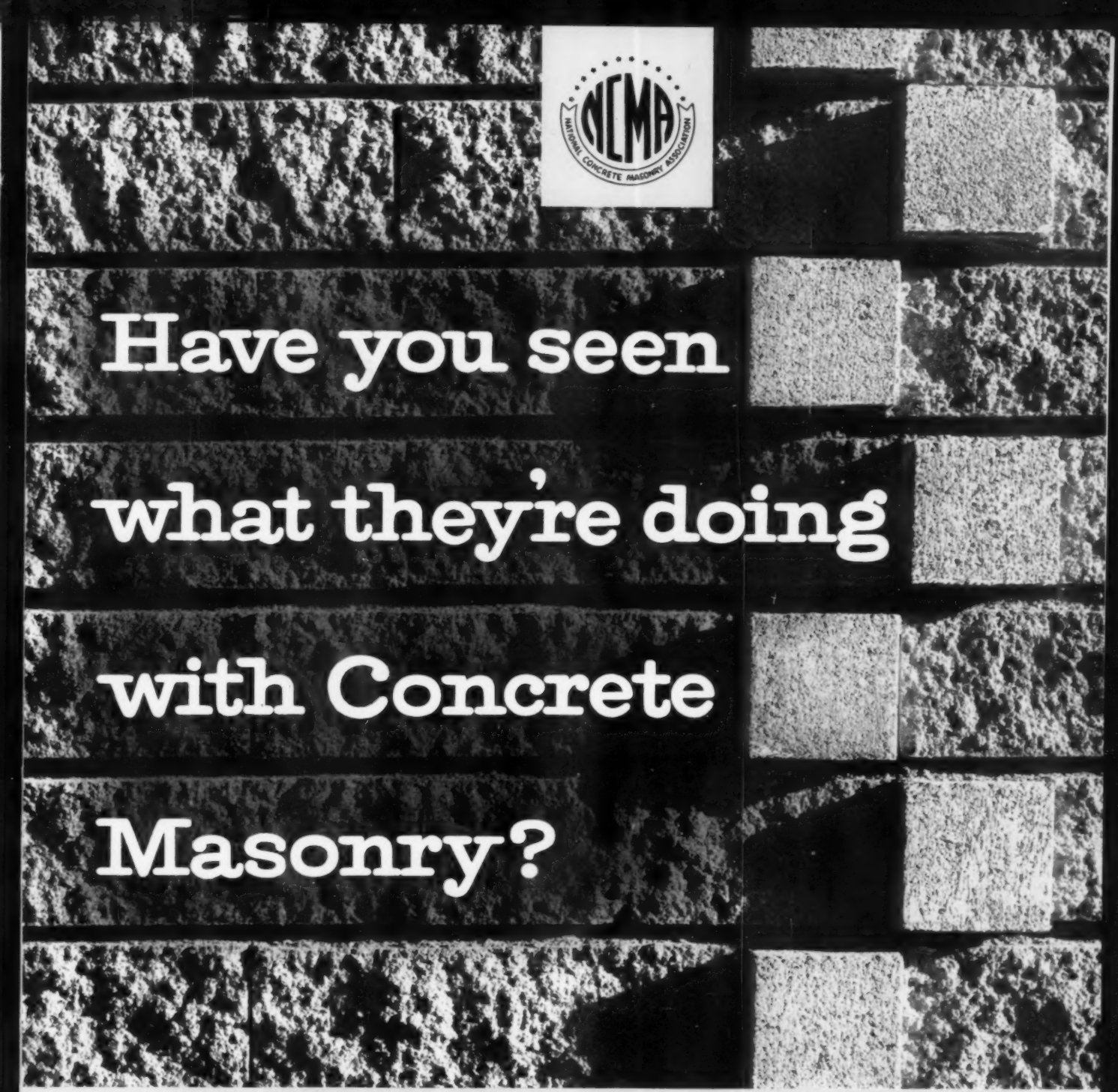
Recent tests conducted by a nationally recognized laboratory, in accordance with "Recommended Practice for Laboratory Measurement of Airborne Sound Transmission Loss of Building Floors and Walls" No. E 90-50T, ASTM, proved conclusively that these doors provide an average sound reduction of 50 db. for single doors, and 49 db. for double doors. Tests were run over 11 different frequencies ranging from 125 to 4000 cps.

Let Jamison's wide experience and knowledge in this specialized field help you solve your particular noise problem. Write today for Bulletin or test data for specific reductions at specific frequencies. *Jamison Cold Storage Door Co., Sound Reduction Door Division, Hagerstown, Md.*

JAMISON

engineered doors

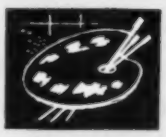
For 50 years the leading builder of cold storage doors



Have you seen what they're doing with Concrete Masonry?

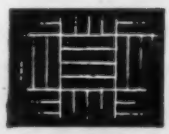
NEW COLORS

Block is now available in many localities in green, ocher, red, ivory, blue, yellow, gray, black and other decorator colors.



NEW PATTERNS

You can build extra distinction into a wall at little extra cost with any of the new concrete block wall patterns.



NEW RESEARCH

NCMA'S engineering staff has produced technical studies which can help you. Ask your local block plant for a copy of "Sound Reduction Properties of Concrete Masonry Walls."



THERE'S always something new about concrete block—the nation's most versatile building material. In fact there are so many new things going on in the industry that it's pretty hard for a very busy man like an architect or an engineer to keep up with the newest improvements.

Here's where your local NCMA member can be a big help to you. Ask him to show you some of the new improvements in block—he's a good man to know.

NATIONAL CONCRETE MASONRY ASSOCIATION • 38 SOUTH DEARBORN • CHICAGO



Hide-a-way air conditioner is mounted above hallway





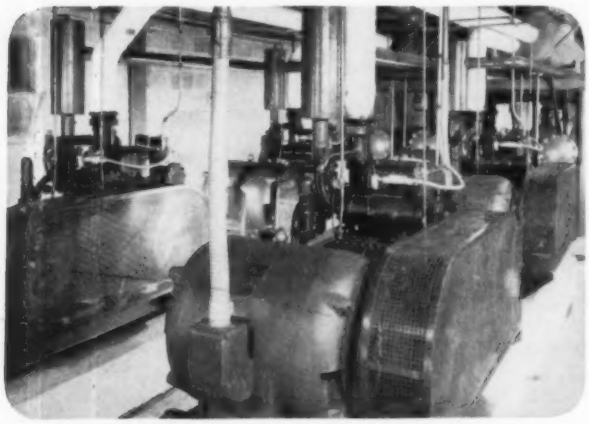
256 Luxury Apartments near Dallas Equipped with

TRADE FRICK MARK®

Air Conditioning



Building housing refrigerating system has cooling tower, with fans, on roof



Frick "ECLIPSE" compressors cooling 256 Woodlane Apartments

The Woodlane Apartments comprise 18 buildings, covering four city blocks. Built and operated by Corrigan Properties, Inc., they offer year-'round air conditioning, among other attractions; people wait for a chance to rent them.

Beatty Engineering Co., Frick Air Conditioning Contractors in Dallas, designed and installed the year-'round system. Four Frick "ECLIPSE" compressors furnish 400 tons of refrigeration. Both the owners and occupants are much pleased with results.

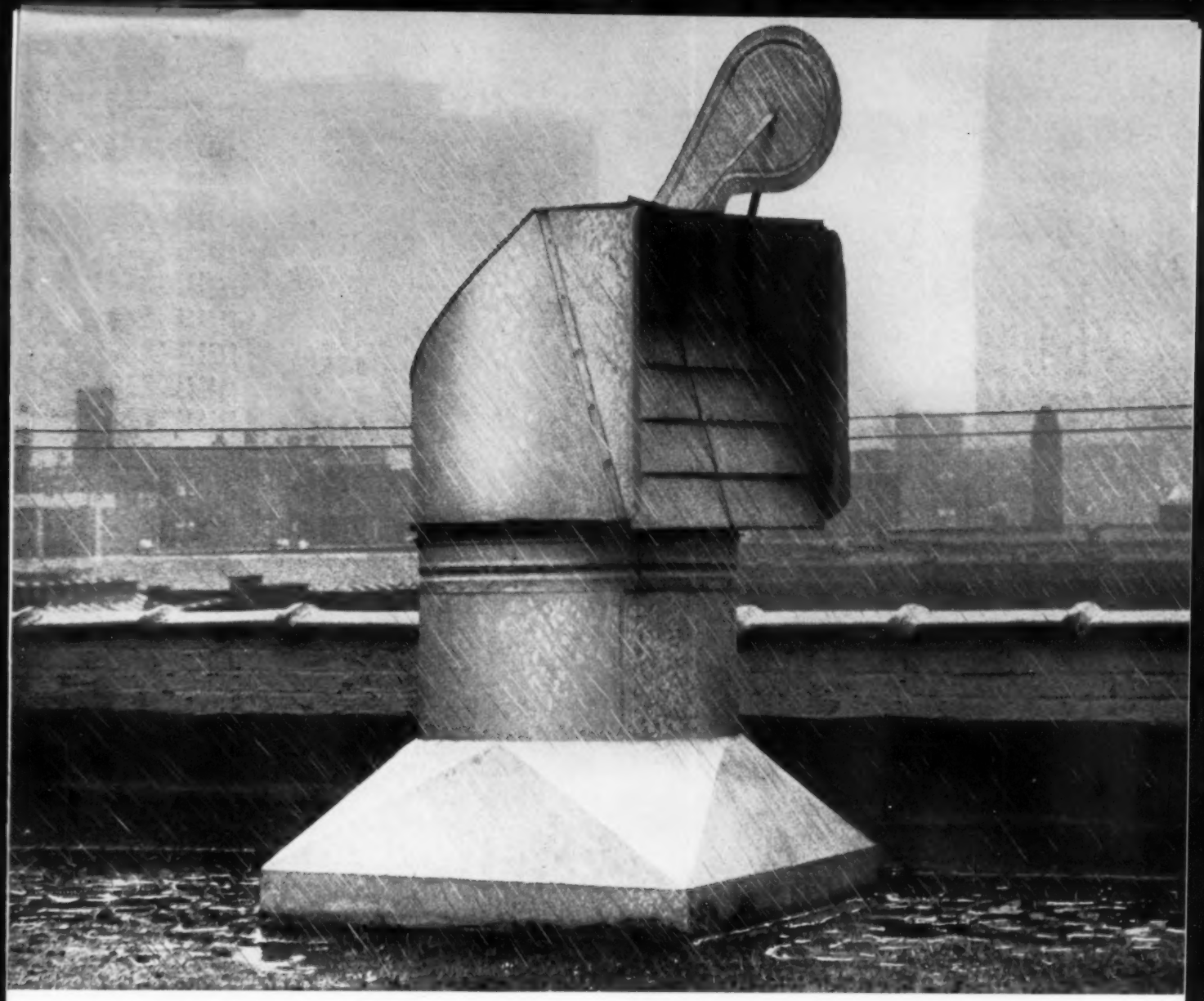
You, too, will be pleased with Frick equipment—whether for air conditioning, ice making, quick freezing or other refrigerating work. Get bulletins and estimates now: write

DEPENDABLE REFRIGERATION SINCE 1882

FRICK CO.

WAYNESBORO, PENNA., U. S. A.

Also Builders of Power Farming and Sawmill Machinery



WEIRKOTE'S® skin-tight zinc coating never gives rust a break

No wonder the steady shift is to Weirkote zinc-coated steel! No wonder more and more spec sheets insist on Weirkote–like this:

SHEET METAL WORK–Materials–Galvanized steel. Unless otherwise specified, this shall be of 26-gauge galvanized sheet steel, of "Weirkote" with make and gauge stamped on each sheet.

Weirkote's continuous-process zinc coating is uniformly skin tight, flawless. It's made that way to *stay* that way through the toughest fabrication and roughest job-site handling. No flaking, no peeling.

It brings first-class corrosion resistance and long life to roof ventilators, heating and ventilating ductwork, ducts for dust and fume removal, rain drainage systems, water type air coolers, other sheet metal uses. Low first cost, low maintenance cost.

Free Weirkote Booklet

Send for the new Weirkote booklet today. Write Weirton Steel Company, Dept. Q-17, Weirton, West Virginia.

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Marlite Modular walls and ceilings

for greater economy, wide flexibility of design

Dimensioned for standard modular sizes, Marlite plastic-finish paneling fits right, looks right, goes up fast with minimum cost "in place." This means wider flexibility in the design of imaginative interiors . . . greater economies all along the line. And Marlite means lower maintenance, too. The baked melamine plastic finish wipes clean with a damp cloth; stays like new for years. For modern commercial, as well as residential interiors, plan on modular Marlite . . . available in Planks, Blocks, large Panels, and hollow-core Korelock in a wide range of distinctive Loewy colors, wood and marlite patterns. Consult your building materials dealer, refer to Sweet's File, or write Marlite Division of Masonite Corporation, Dept. 805, Dover, Ohio.

that's the beauty of **Marlite®**

plastic-finished wall and ceiling paneling

OPERATION '56 the year to FIX HOME IMPROVEMENT

MARLITE DIVISION OF MASONITE® CORP.

ANNOUNCING HAGER'S NEW

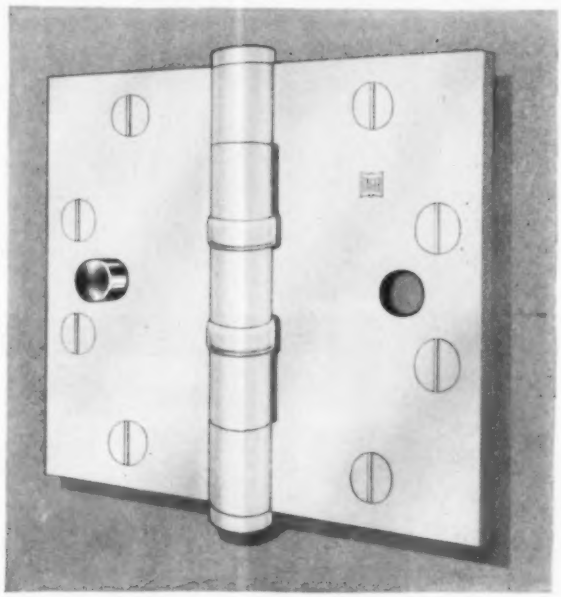
Syncretized SAFETY STUD

for maximum security

even if the pin is pulled...

you can't pull

the leaves apart!



IT'S

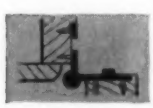
TAMPER-PROOF

Available on all Ball Bearing and template Plain Bearing Butt Hinges, at additional charge. Specify Symbol SH.

No question about the simple unfailing function of HAGER'S new SYNCRETIZED safety stud. Come night-fall when doors swing shut, an inconspicuous yet rugged metal stud on one hinge leaf penetrates the thickness of the other. All's secure. Pull the pin...knock off the knuckles...the leaves remain "locked" at a point beyond a prowler's reach. Here is maximum security in a handsome, Hager hinge!

For pilfer-proof protection specify Hager's new *Syncretized* Safety Stud feature on that next *security* job!

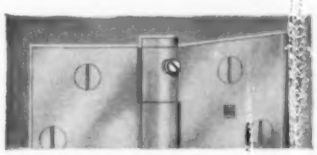
EVERYTHING...security, flawless performance, beauty...Hinges on Hager! ®



1. Position of syncretizing metal stud when door is open. It is unnoticed.



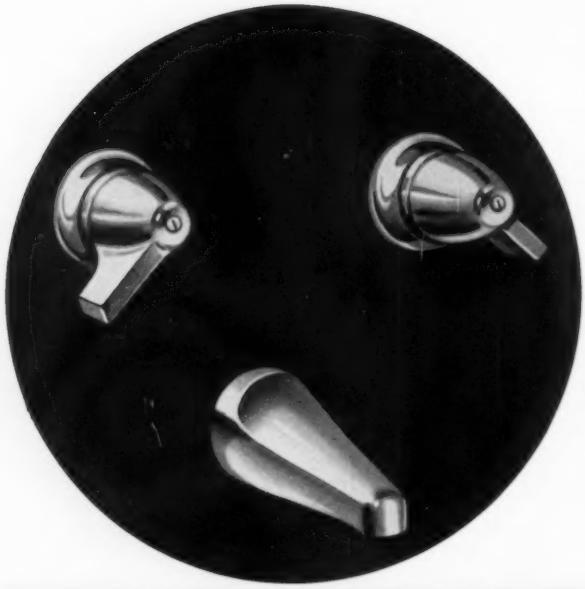
2. Door closed. Leaves are interlocked by metal stud, preventing movement of door in *any* direction with respect to jamb.



FOR MEDIUM SECURITY... specify set screw in barrel reducing easy pin removal.

Specify symbol N.R.P.

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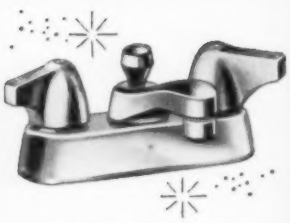
Eljer proudly presents

The Plumbing Industry's Newest and Most Modern Brass Fittings!

Once again Eljer makes the big news! This time with a completely new line of brass fittings . . . the most modern in the plumbing industry!

Sleek, Contemporary Styling! New Eljer fittings are compact, streamlined masterpieces of modern design! They add striking beauty to Eljer fixtures . . . are functionally styled, easy to clean.

Completely Renewable! All working parts are renewable, for easy maintenance.



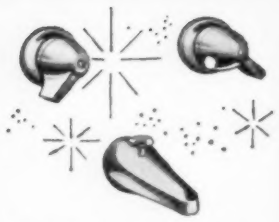
New Eljer center-set lavatory fitting.



New Eljer combination lavatory fitting.



New Eljer deck-type sink fitting.



New Eljer combination shower and over-rim bath filler with diverter spout.



New Eljer Vari-Spray ball-joint shower head.

For the BIG news in the plumbing industry, keep your eye on Eljer. For information on the new Eljer brass line, see your wholesaler or write Eljer Division of The Murray Corporation of America, Three Gateway Center, Pittsburgh 22, Pa.

Traditional Eljer Quality! Made by Eljer in an up-to-date plant devoted solely to brass, this new line is manufactured, inspected and tested with the traditional Eljer emphasis on quality.

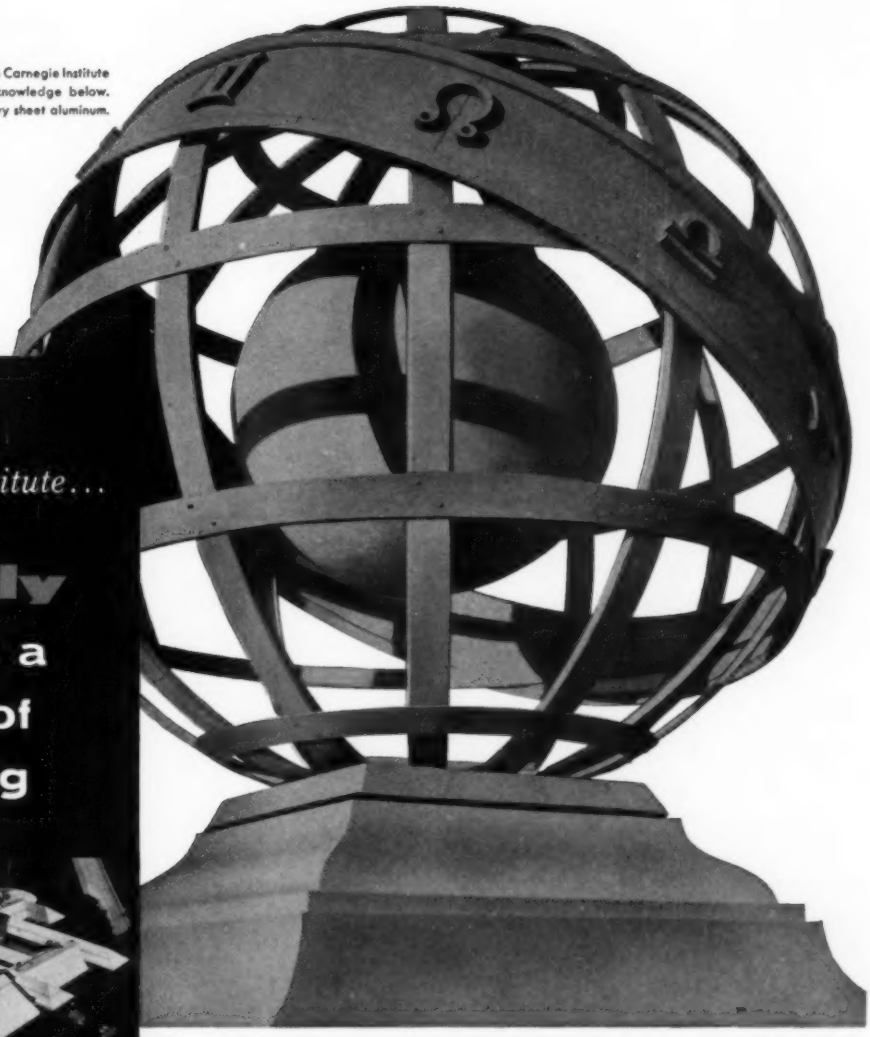
New Brass Line Backed by Eljer's Colorful National Advertising! Eljer's full-color national advertising is as exciting as Eljer's product developments. Eye-catching, modern, high style, it helps *you* sell!

ELJER*

DIVISION OF THE MURRAY CORPORATION OF AMERICA

*ELJER - the only name you need to know in plumbing fixtures

Alodized green globe atop Carnegie Institute symbolizes the world of knowledge below. Crafted by Overly in heavy sheet aluminum.



on the famous Carnegie Institute...

Overly covers a world of learning

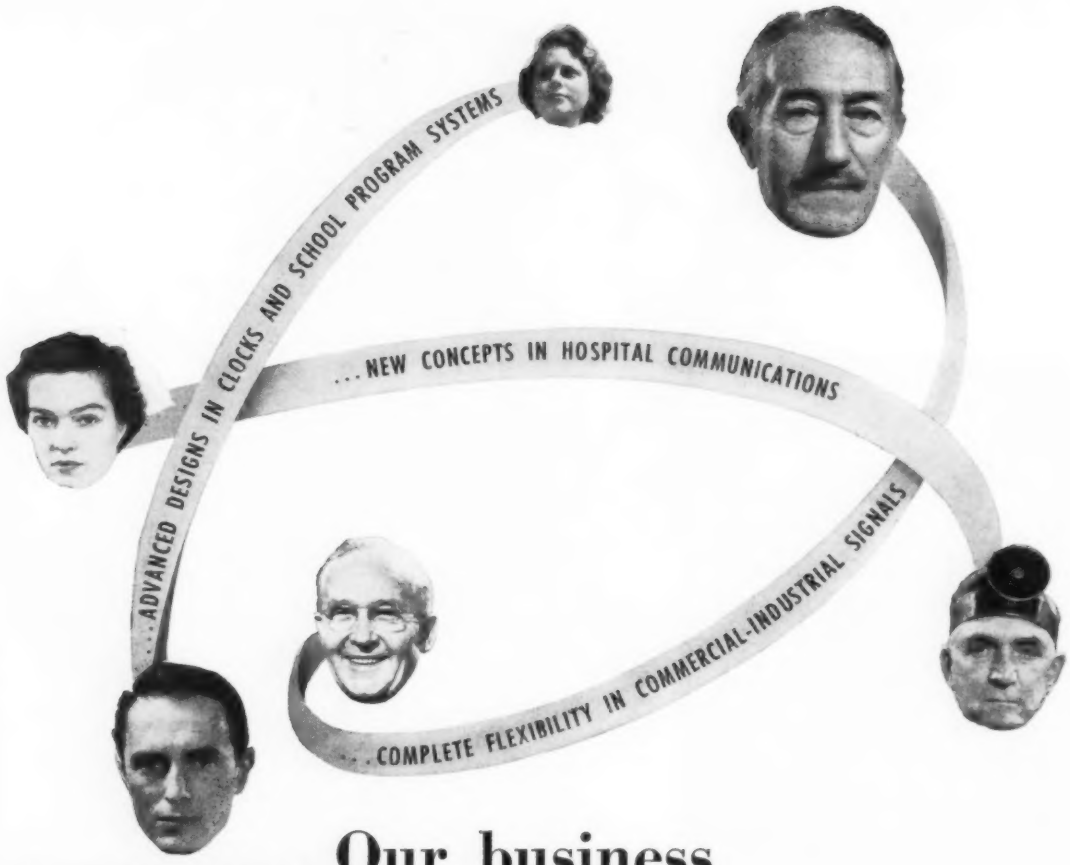


Architect & Engineer: Charles M. & Edward Stotz
Pittsburgh, Pa.

From the "world" on down, Overly has roofed Pittsburgh's famed treasure house of antiquity—Carnegie Institute and Library. Replacement of the badly leaking old roof was necessitated by continuing, costly damage to interior finish. Overly was awarded the project because of the architect's knowledge that our guaranteed weather-tight roof and skylight system would handle the job on a permanent basis. ● Installed were almost four acres of Overly-Goodwin batten type aluminum roofing and puttyless skylights; skylights alone amounted to 44,500 sq. ft. An outstanding feat was the removal of 93,000 sq. ft. of original skylight and its replacement with new skylight, or deck and roofing. This was done without damage to glass ceiling lights beneath, and without interruption to building's activities. The new roof reduced load on supporting structure by 1,370,000 pounds. Aluminum is finished in attractive Alodine green, which eliminates glare and softens appearance of massive roof area. ● Overly's experience and financial ability to carry a job of this scope uniquely qualify us to handle roofing requirements of largest size. Get the complete Overly story into your files; write us today for catalog 16b-Ov.

Overly Manufacturing Company

Greensburg, Pennsylvania • Los Angeles 39, California



Our business is communications



Your clients will appreciate the many advantages of Sperti Faraday precision engineered signal systems. From a simple buzzer to Visicall, the electronic marvel that lets you *see* and *talk*, you can always depend on Sperti Faraday, pioneers in the industry, for the latest developments in visual and audible communication systems.

You can rely on Sperti Faraday to speed the flow of goods and services in all stages of production and in all walks of life. Pioneers in industrial, commercial and institutional signaling systems, Sperti Faraday precision engineered products meet today's need for maximum efficiency in audible and visual communications.

For information on how Sperti Faraday engineering can help increase efficiency while lowering your cost of communications, write to Sperti Faraday, Inc., Adrian, Mich. In Canada, write Sperti Faraday, Ltd., Montreal.

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Offices in 36 principal cities in the U. S. A. and Canada

Inquire today about these Sperti Faraday engineered products.

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MODERN
OFFICE
BUILDING
HIGHLIGHTS
VERSATILITY
OF... **ALUMINUM CURTAIN WALLS BY**

CUPPLES



Here's another excellent example of how effectively aluminum curtain walls meet contemporary construction requirements.

Curtain wall consists of tubular vertical mullions, and horizontal tubes at head and sill of the windows and porcelain panels. No frame is needed for the panels. Cupples' custom-made tophung in-swinging windows, double weatherstripped, are used throughout.

On some elevations are long runs of Cupples' windows with head trim and sub-sill. The sub-sill is a semi-tube to provide a track for a sliding plate with cleaner anchor attached. Window washer stands on concrete canopy beneath windows.

Cupples' dominance in sound, economical curtain wall design, construction and erection keeps pace with its leadership in the fabrication of aluminum windows, doors, ornamental products and Alumi-Coustic grid systems. Our catalogs are filed in Sweet's

Cupples PRODUCTS CORPORATION

2650 South Hanley Road • St. Louis 17, Mo.

WHY DESIGNERS SPECIFY JUNIOR

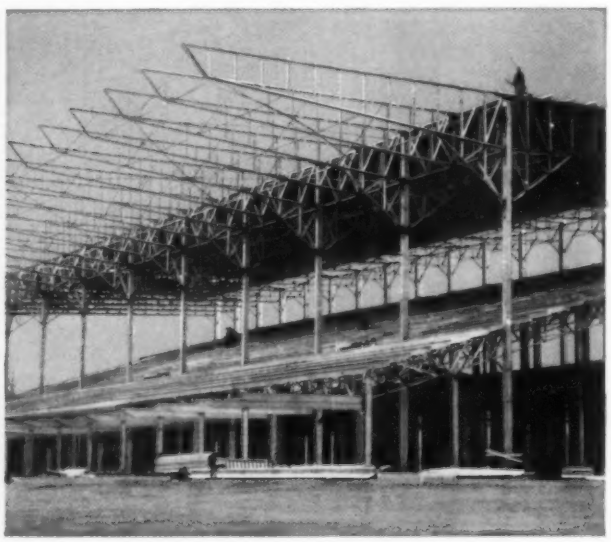
1. AVAILABILITY

Identified projects, designed for JUNIOR BEAM construction, are assured of a reliable source of supply by Jones & Laughlin. JUNIOR BEAMS, in 6″, 8″, 10″ and 12″ sizes, are produced to fit your needs . . . with delivery when you need them. When you build with JUNIOR BEAMS you eliminate costly delays in procurement and fabrication.

2. VERSATILITY

The versatility of JUNIOR BEAMS is illustrated in this grandstand where they are used as floor beams, purlins, stair risers and in built-up columns by Holston Steel Structures, Inc., Bristol, Tennessee. JUNIOR BEAMS can be used in a wide range of cost-cutting applications, such as floor and roof construction, shipbuilding, truck and trailer frames.







JUNIOR BEAMS offer extreme versatility for use in residential and industrial construction, schools, hospitals, commercial buildings. JUNIOR CHANNELS, for stairway construction, and JUNIOR BEAMS are available from the mill and from principal fabricators and warehouses. Investigate the many advantages of these two hot-rolled structurals today.

J&L STEEL

BEAMS

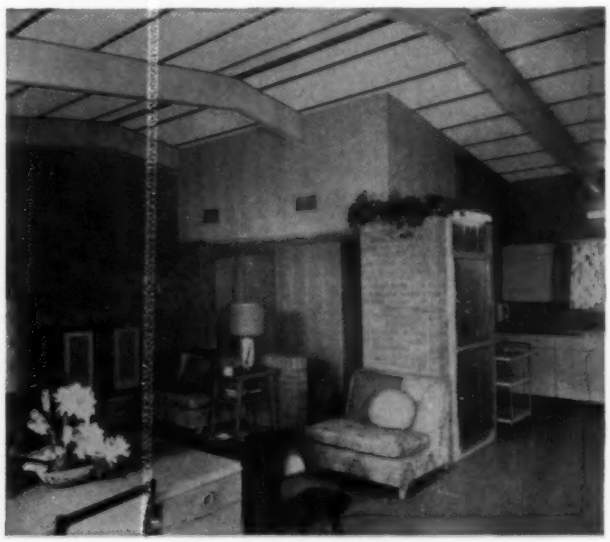
3. ECONOMY

Contractor on this job saved 56 man-hours using JUNIOR BEAMS as floor joists. Floor construction was completed in 19 man-hours as compared to 75 man-hours for conventional wood joist construction by Steinkamp & Company, Batesville, Indiana. JUNIOR BEAMS are low in cost, light in weight, and easy to erect by welding or bolting for all types of construction.

4. MODERN APPEARANCE

Exposed JUNIOR BEAMS permit added height in this modern home of J. Leonard Rush, Detroit architect. These JUNIOR BEAMS were used on a 30-foot span, allowing for unusual design features. The roof is supported by the JUNIOR BEAMS on three-inch diameter steel pipe columns. Costs for this type of roof were only half the cost of wood-frame construction.





Simply mail this coupon for additional information...

Jones & Laughlin

...a great name in steel

Jones & Laughlin Steel Corporation
Dept. 466, 3 Gateway Center
Pittsburgh 30, Pennsylvania

☐ Have representative call
☐ Send information on JUNIOR BEAMS and JUNIOR CHANNELS

Name _____

Title _____

Company _____

Street _____ City _____ State _____

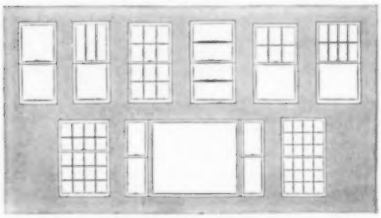


Monticello, the home and burial place of Thomas Jefferson, is situated on the top of a low mountain, three miles east of Charlottesville, Virginia. Monticello is the Italian word for Little Mountain.

Durable Double Hung Wood Windows Lend Cheeriness to Jefferson's Monticello



Relative inexpensiveness permits generous use of double hung wood windows with metal weatherstripping.



An endless variety of design can be achieved with double hung wood windows. They are easily shaped and their surface receives and holds any type of finish.

No architect ever built himself a better home, or put more of his personality in it, than Thomas Jefferson, our third president, did at Monticello. Always conscious of the influence of local materials and craftsmen, Monticello was constructed with timbers cut from the woods, and the bricks, nails and much of the hardware was made on the property. Of particular note in the design of Monticello are the large double hung wood windows that afford ample light and add to the allover beauty of the home.

Panes in today's double hung wood windows are four inches wider, affording an average of 20% more usable glass area in the same size wall dimension opening. This has been achieved through the use of spring sash balance or other modern type balances. Cost has also been reduced, since only four low cost springs serve the purpose of the more elaborate equipment used in the past. The efficiency of modern double hung wood windows has been further increased through the use of metal weatherstripping. It adds to the comfort, convenience and protection of the home. Also, it is a substantial factor in reducing fuel cost.

WEATHERSTRIP *Research* INSTITUTE

OFFICE OF THE SECRETARY, BOX 128—RIVERSIDE, ILLINOIS

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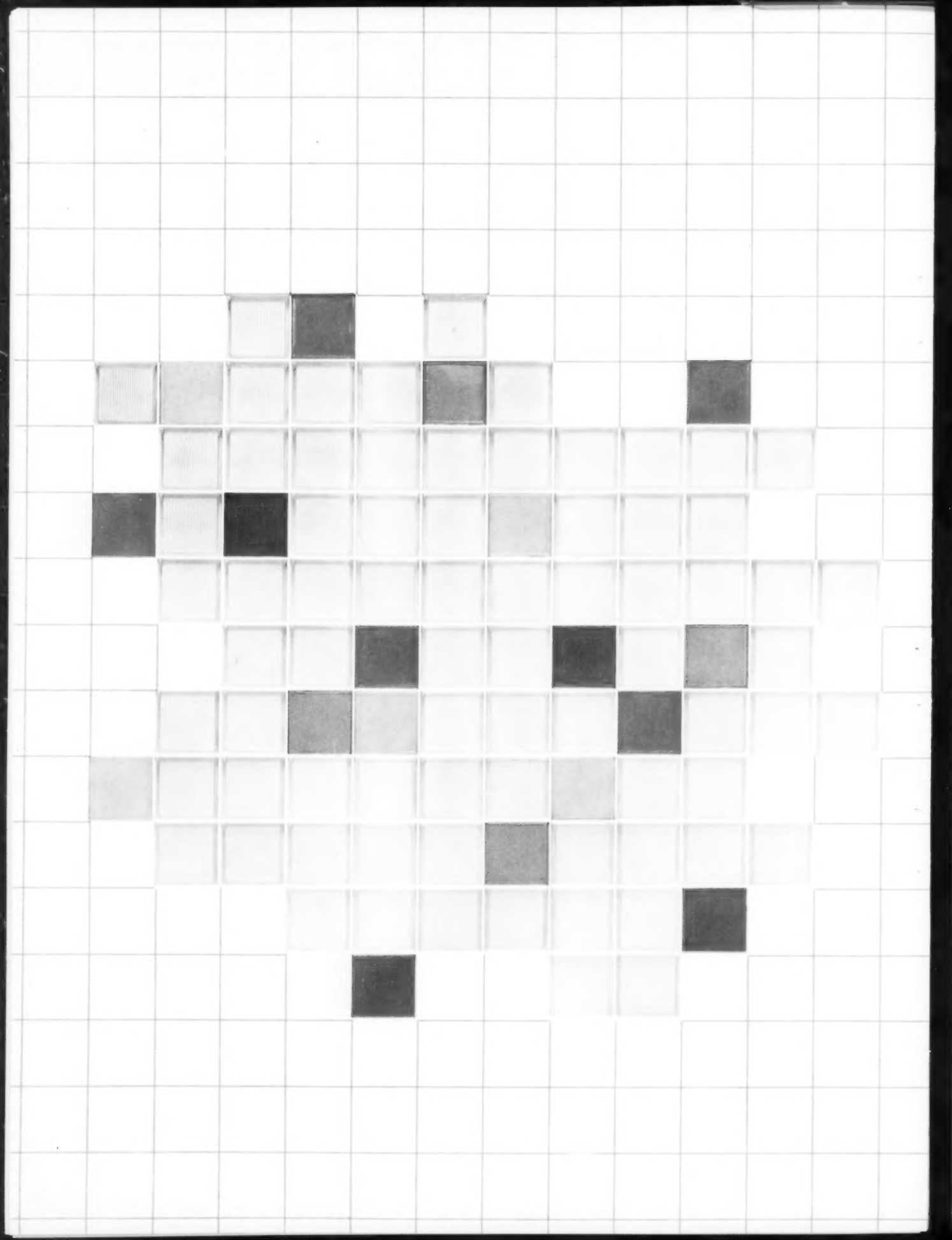


GOING UP! 111 West 40th Street Building being erected for General Realty & Utilities Corporation by George A. Fuller Company, general contractor. For this 35-story New York office building, architects Kahn & Jacobs, and Sidney Goldstone make creative use of Ceramic Veneer for vertical pier facing and coping. Whatever the building now on *your boards*, write for Federal Seaboard's colorful literature illustrating the versatility of modern Ceramic Veneer. Also without charge, we will gladly furnish construction detail, data, color samples, and advice involving Ceramic Veneer, the modern Architectural Terra Cotta.

FEDERAL
SEABOARD
TERRA COTTA
CORPORATION

10 E. 40th St., New York 16, N. Y.
Plant at Perth Amboy, N. J.

F S T C





A new product...a new design concept...

COLOR for Glass Block Curtain Walls

With the availability of PC Color Glass Blocks, the bold concept of Glass Block Curtain Walls opens a whole new field of design opportunities for the Architect. This new color product, pioneered by PC, is available on Architect's specification only. It is produced in a variety of ceramic face colors and is translucent.

Our representative has full details and color photographs on both this new product and the new Curtain Wall design concept. He'll be glad to review this material with you at your convenience. Contact him direct, or write us today. Pittsburgh Corning Corporation, Dept. C-87, One Gateway Center, Pittsburgh 22, Pennsylvania. In Canada: 57 Bloor Street West, Toronto, Ontario.

COLOR GLASS BLOCKS by PITTSBURGH CORNING





B. T. Babbitt Company offices keep

their executive look with superdense

B.F.Goodrich *Rubber Floor Tile*

The makers of Bab-O and Glim used 16,000 square feet! B. F. Goodrich Rubber Floor Tile helps give offices the executive look, and helps them keep it! By an exclusive process, B. F. Goodrich compresses the tile in such a way that it has "superdensity." Dirt-catching pores are eliminated, and each tile has cleaner, truer colors, more polished perfection. Before writing specifications on important installations, we urge you to compare B. F. Goodrich Rubber Floor Tile with all others. See it, touch it. We are sure that you, like the officials of the B. T. Babbitt Company, will clearly detect the superiority of B. F. Goodrich Rubber Floor Tile. It's a product of B. F. Goodrich — "First in rubber."

SPECIFICATIONS: 28 new Colorscope colors (⅛", 5/16" and .080 gage thicknesses), can be installed on or above grade.

FOR FURTHER INFORMATION: See Sweet's or write B. F. Goodrich Flooring Co., a division of The B. F. Goodrich Company, Dept. AR-8, Watertown 72, Mass.

B.F.Goodrich

New "Agatine" Tile • Koroseal Tile • Asphalt Tile • Rubber Cove Base • Stair Treads • Accessories

When It's a Question of Quality in Aluminum Windows, the Answer Is Ualco



control

The Lifetime Beauty of Ualco Windows Enhances the Beauty of Any Building



The natural, lifetime beauty of Ualco Aluminum windows blends with any architectural style, adds to the beauty of outside textures and inside decoration. In addition, Ualco windows operate efficiently and easily for the life of the building, without maintenance. A score of styles are *control-manufactured* to help give you freedom of design, to help make any type of building more functional and more beautiful. *Competitively priced.*

Our large engineering planning staff is at your disposal to provide any information and to assist you in selecting the right window from Ualco's 20 styles for any building.

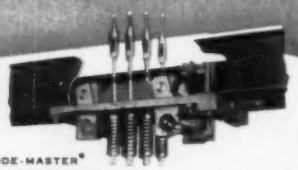
Ualco®

Southern Sash
SALES AND SUPPLY COMPANY, INC.
SHEFFIELD, ALABAMA
World's Largest Manufacturer of Aluminum Windows

FOR THE RECORD



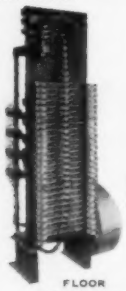
MAGNETIC LEVELING UNIT PAT. PENDING



LODE-MASTER* WEIGHING DEVICE



INTERLOCK ASSEMBLY



FLOOR SELECTORS



CAR OPERATING DEVICE

montgomery's complete "family" of Elevator Components

"They work better together"



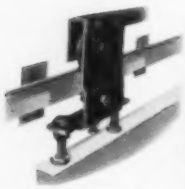
GEARLESS MACHINES



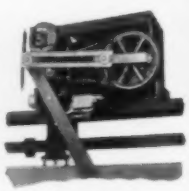
WAITING PASSENGER LANTERNS



POSITION INDICATOR FIXTURES



DOOR HANGER



DOOR OPERATOR



ELEVATOR CONTROLLERS

Here are but a few of Montgomery's complete line of passenger and freight elevator components that are *engineered and built by Montgomery* — for over 60 years manufacturers of dependable vertical transportation equipment exclusively.

The components shown are just a part of the *complete* Montgomery "engineered and built package," which gives you the ultimate in an efficient and dependable elevator plant.

Let Montgomery engineer your job for you from the beginning. Interesting economies can be affected.

*REG. T.M. PATENTED

MONTGOMERY Dependable ELEVATORS

montgomery elevator company
Moline, Illinois

Exclusive Manufacturer of Passenger and Freight Elevators Since 1892

SPECIFY QUALITY WITHOUT MENTIONING THE WORD

Schieber introduced folding table and bench equipment 26 years ago and today, thousands of schools, plants and institutions are equipped with the company's products. There is a model for each application to meet restricted budgets by making space serve double duty—Each model built to high Schieber standards and fully guaranteed up to 10 years.

SERVICE TO ARCHITECTS

We will furnish on request, complete specifications and detail drawings on all models. Our representatives are completely qualified to consult with you on applications, make recommendations and quote prices.



PUBLIC SCHOOL, S. W. Haynes & Assoc., Inc., Architects



PAROCHIAL SCHOOL, J. Gerald Phelan, Architect



COMMUNITY HOUSE, Edward A. Schilling, Architect



FIRE STATION, Jahr-Anderson Assoc., Inc., Architects



LARGE PLANT



SMALL PLANT

Sweet's File 23i Sc

Schieber SALES COMPANY
Detroit 29, Michigan

Representatives in all areas U.S. and Canada

ROBBINS MAKES FLOORING NEWS

ROBBINS FLOOR PRODUCTS, INC.
Tuscumbia, Alabama

fabulous floors by Robbins



Steinhardt and Thompson, Architects; Flooring Installation—William Gold.

ROBBINS CORK FLOOR TILE KEEPS THE NOISE DOWN AS TRADING VOLUME RISES

People move fast and frequently when "buy" and "sell" orders begin to flow in a stockbroker's trading area. And there's plenty of noise—

To muffle the sounds of busy feet, Robbins Cork Floor Tile was specially chosen for this trading area at Blair & Company, members of the New York Stock Exchange. This tile, which is made of finest imported cork and compressed to a high density, reduces the noise level substantially—to a degree much lower than is possible with other hard-surface floorings. Furthermore, it has a natural toughness that ensures lasting wear in heavy-traffic installations.

Robbins Cork Floor Tiles come in soft, mellow tones that enable you to design distinctive, beautiful floors. So if you have an installation that requires lustrous appearance, as well as quiet comfort underfoot, specify Robbins Cork Floor Tile. The cost, including installation, is lower than that of many luxury floorings.

FREE! NEW SAMPLE TILEBOOK

Where can you find the exact floor tile color you need? Look here—in Robbins' new Architect's Sample Tilebook!

Just flip through the pages. You'll see the precise colors of Robbins' fabulous vinyl and rubber floor tiles, both solid and marbleized. You'll also see samples of Robbins' exclusive Patio Tile for outdoor installations and samples of Robbins Vinyl Matting. It also contains a folder which illustrates the complete Robbins line, and typical specification sheets to make ordering easier.

Write for this handy, compact Robbins Sample Tilebook today. It's light, easy to carry around and refer to—and it fits your office bookshelf! For your free copy, write: Robbins Floor Products, Inc., Tuscumbia, Alabama.





ROBBINS MATCHES DESIGNERS' COLORS FOR ULTRA-MODERN BUILDING

New York's newest building, the C.I.T. Financial Corporation's ultra-modern black granite and stainless steel structure, will feature three unusual colors of rubber Terra-Tile—which Robbins prepared specially to match the interior designer's specifications. The colors—driftwood, sand, taupe—were chosen by Eleanor Le Maire, famous interior designer. The tile will cover 125,000 sq. ft. of floor space on seven floors. Installation—W. Gold.

Robbins' ability to match special colors, and to produce uniform-quality tile in quantity is a major reason why architects and designers prefer to work with Robbins. If you have a custom job like this on your books, why not call your nearest Robbins distributor today?

DESIGNERS CHOOSE ROBBINS FLOOR TILE FOR NEW SUBURBAN MEN'S STORE

D. C. O'Connell Associates, Store Designers, had many specific reasons for choosing Robbins vinyl floor tile for a 15,000 sq. ft. installation in the new John David men's store at White Plains, New York.

The tile they chose, Robbins' fabulous Lifetime Vinyl Tile #178, is light in color, refreshing and reflective—perfect for a suburban men's store. Installed by William Gold, it lends itself to the store's luxurious but casual atmosphere, permits soft spotlighting of merchandise. Then, too, this decorator tile has a lustre that lasts and lasts with minimum care. It's also highly resistant to scuffing and indentation, extremely durable and long wearing—ideal qualities for every area where traffic is heavy.

ARCHITECTS: Like to know more about Robbins' fabulous tiles? See Sweet's or write us for complete details.



University of Wichita Field House, Wichita, Kansas, where Jenn-Air Exhausters were used.
Architect: Lorenz Schmidt, McVay & Peddie, Wichita; Mechanical Engineer: Oakle P. Bullock, Wichita.

10 YEARS AGO...

JENN-AIR Revolutionized the Exhauster Industry with Low Contour Spun Aluminum Design

10 YEARS LATER...

JENN-AIR is Still First with the Finest

It's been a decade since Jenn-Air charted the course in the power exhauster industry by introducing spun aluminum exhausters with *low contour* design. This year marks the 10th anniversary of low contour spun aluminum roof and wall exhausters. As the creator of low contour design, Jenn-Air naturally leads the field in experience.

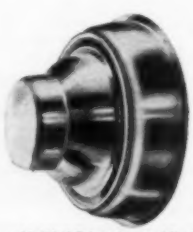
Here's how Oakle P. Bullock, consulting engineer, views Jenn-Air's contribution to the industry: "When Jenn-Air introduced this fan on the market it solved a big problem of the Architects and Engineers. Before that time we were using a very unsightly type installation and welcomed Jenn-Air Exhausters."

Jenn-Air still is "on the move." Company stability is reinforced with engineering imagination—or "Visioneering"—to preserve Jenn-Air's reputation for always being *First with the Finest*. FIRST with low contour design and spun aluminum construction . . . and now, FIRST with stainless steel U-spring vibration isolators which show 44% less vibration transmission than rubber or neoprene.

JENN-AIR PRODUCTS COMPANY, INC.
1102 Stadium Drive • Indianapolis 7, Indiana

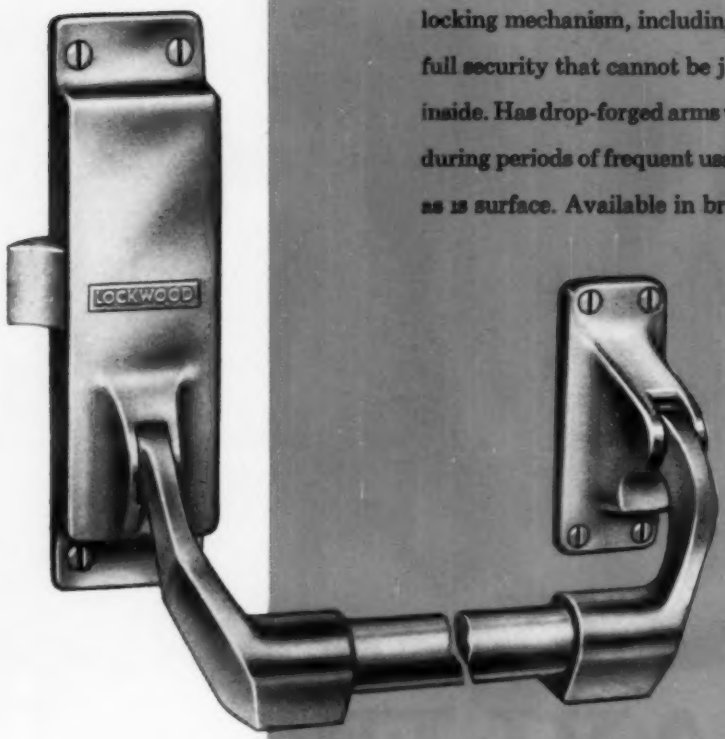


Jenn-Air Quiet-Tested Roof Exhauster, with U-Spring Cushion Suspension Mounting. Note low contour design.



Jenn-Air Wall Exhauster—architecturally-sculptured button design, spots ventilation control.

This rim type device is the most versatile item in Lockwood's complete line of exit devices. Case contains entire locking mechanism, including a new collapsible bolt with full security that cannot be jammed by pressure from the inside. Has drop-forged arms which are easily dogged down during periods of frequent usage. Lines of case are smooth, as is surface. Available in brass, bronze or aluminum.



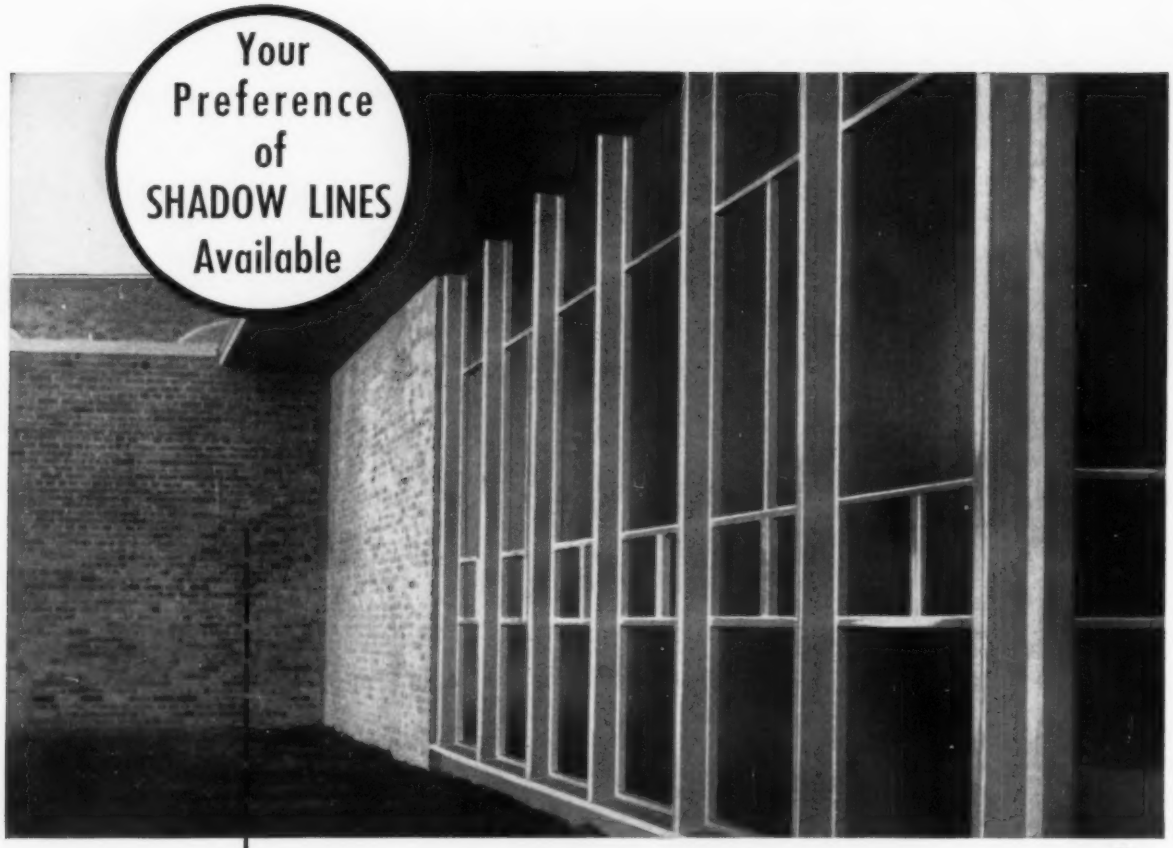
Safe exit assured by

LOCKWOOD

As a leader in the development and manufacture of builders hardware for the nation's outstanding buildings, Lockwood has an unequalled reputation for quality and dependability.

Lockwood engineers have put all their experience into perfecting the smoothest - working Panic Exit Devices possible. The result is a complete line, including vertical, mortise and rim type locks.

LOCKWOOD HARDWARE MFG. CO., Fitchburg, Mass.

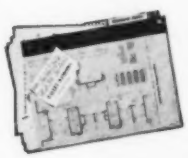


BAYLEY

WINDOW-WALLS and CURTAIN-WALLS

Bayley's exclusive mullion design offers you a wide range of shadow-line effects without special window or curtain-wall designing. This is but one of the many Bayley features that enables Bayley Engineers to be of special service to you, if called for consultation in the early stages of a project. Rendering complete window engineering service — with reliable "follow-through", even to actual installation — Bayley can help you save your time, as well as assist you to achieve your individualized design with maximum economy on overall window or curtain-wall costs. Write or call your local Bayley Representative.

Write for this special Designers' Idea File on Curtain-Wall designs. Bayley's system is winning favor everywhere.



The WILLIAM BAYLEY Co.

Springfield, Ohio

District Sales Offices: **Springfield • Chicago • New York • Washington**

EASY AS π!

NEW Guth brascolite
INCANDESCENT LIGHTING CATALOG
puts EVERYTHING
at your fingertips...



brascolite by Guth

Holophane INTENSIVE Controlens®
RECESS Fixture . . . Tetragonal ALZAK Reflector
DIE-CAST Door . . . HORIZONTAL Lamp Burning

APPLICATION The INTENSIVE Controlens Recess Unit is recommended for general lighting of areas with medium or high ceilings where conditions require wide spacing of units.

LENS Holophane CONTROLENS® Intensive Type, Standard Holophane Lenses are listed below. Also available in HI-STRESS® tempered glass for maximum impact resistance and in BU-TI-GLO® for completely flattering lighting effects.

REFLECTOR Semi-Specular ALZAK aluminum of tetragonal design. Provides maximum efficiency for horizontal lamp operation.

LAMP Not furnished. Use inside frosted or clear general service type. Recommended bulb & wattage sizes indicated below.

FLANGE & DOOR Ceiling flange is die-formed of 18-gauge steel. Die-cast door frame is hinged to trim by heavy concealed drop-hinge. Door easily removed. Positive door alignment by tongue and slots on hinge side. Door secured by one captive thumb screw. Lens secured in door by heavy screw fastened retainers; no tabs to bend or break off. Entire assembly light-tight when closed.

HOUSING Die formed and welded construction of 20-gauge zinc plated and bonderized steel. Mounting slots provide for vertical adjustment. Top panel removable for servicing-from-above.

PLASTER FRAME When furnished, the die formed and welded steel construction provides for accurate fixture opening and mounting. Two types available—Standard, and Dyadic with attached junction box.

FINISH Flange and Door finished in Silvan Housing finished inside and out in 200° Permalux White. Plaster Frame when furnished: baked Gray enamel.

INTENSIVE Controlens® Holophane #748, 773, & 774 Tetragonal ALZAK Reflector
For general illuminating purposes from medium and high ceilings. Spacing not to exceed 1.25 times mounting height. See reverse side for lighting data.

WIRING Unit engineered so all wiring is kept out of light chamber. Two-wire conduit feed to porcelain socket. All units supplied with 6" leads of flexible rubber insulated wire. Where conduit runs are desired, unit can be had with N. T. & T. etc. rated wire direct to box. Box with N. T. & T. etc. No additional cutting or box work needed.

INSTALLATION Unit designed for ease of installation. Mechanical ceiling construction, frame supports unit. Plaster frame: Where desired, the Standard or Dyadic plaster frame can be used. Housing is wired and then attached to supporting bars by screws through vertical slotted mounting lugs. Fasten trim plate in position flush to ceiling by sliding slotted hangar straps over pins in trim frame. Reflector snaps into trim frame, to fit—no Reflector alignment. Door frame is attached to trim frame by screws through slots, to trim flush or positive alignment.

MAINTENANCE Lamps may be serviced from above or below ceiling. One captive thumb screw for safe positive door fastening. No tools needed.

NIGHT LIGHT Available on special order in all units. Add "-NL" to catalogue number. Consult price list for added charges.

TAMPER PROOF TYPES For installations where desired, specify tamper-proof screws by adding "-TP" to catalogue number.

INSPECTED Listed by Underwriters' Laboratories, Inc.

Fixture Only	CATALOG NUMBERS (3) With Standard (1) Plaster Frame	With Dyadic (2) Plaster Frame	MAXIMUM LAMP SIZE & WATTAGE	LONG SIZE (SQUARE)	A Ceiling	B Box Size (Square)	C Plate Ft. Size (Square)	D Face Plate Size (Square)
B1006	B1006/SF	B1006/DF	200W A23	8½"	2"	5⅝"	9⅛"	11"
B1007	B1007/SF	B1007/DF	300W PS30	11"	2"	7⅛"	12⅛"	13⅛"
B1008	B1008/SF	B1008/DF	500W PS30	12"	2"	7⅛"	12⅛"	14½"

Notes: (1) Please refer to Page A-29 for Plaster Frame Details.
(2) Listings above with STANDARD Holophane glass lenses. For Holophane HI-STRESS® Controlens add "-HS" to Cat. No. For Holophane BU-TI-GLO Controlens®, add "-BG" to Cat. No.

® Holophane Co., Inc.
THE EDWIN F. GUTH COMPANY, ST. LOUIS 3, MISSOURI

A-3

LIGHTING DATA...
Holophane INTENSIVE Controlens®
RECESS Fixture . . . Tetragonal ALZAK Reflector
DIE-CAST Door . . . HORIZONTAL Lamp Burning

COEFFICIENTS OF UTILIZATION

MAINTENANCE FACTOR

CANDLEPOWER DISTRIBUTION

B1006—150 Watts

B1007—300 Watts

B1008—500 Watts

AVERAGE BRIGHTNESS-FOOT LAMBERTS

B1006—150 Watts

B1007—300 Watts

B1008—

SUGGESTED ENGINEERING SPECIFICATIONS

The Co. actor shall provide and install where shown on plans, recessed units having waste capacity, provided with a lens of the sectored plano-convex type, segments to a flat plane in steps not less than right to the inch, with segments distributed in concentric form, equally spaced. Reflector of tetragonal design shall be finish having 86% R.F. The combination of lens and made of aluminum, with a Semi-Specular ALZAK reflector shall be optically designed so that 68% of the light output shall fall within the 0° to 40° zone. The lens shall be held in a drop hinged, die-cast door by removable 18 gauge Steel Clips which do not require bending to secure or remove glas snugly without light leaks into Ceiling Face-Plate, and shall b screws to secure it. Positive de assured by tongue-and-slot o housing shall be made of 20 phosphatized Steel with a re nance from above, and shall wiring is kept out of the lig be furnished with a conceal celain socket. Fixture sh Laboratories label.

® Holophane Co., Inc.
THE EDWIN F. GUTH COMPANY, ST. LOUIS 3, MISSOURI

Write today on your letterhead for complimentary copy of this helpful new working tool.

THE EDWIN F. GUTH COMPANY • ST. LOUIS 3, MISSOURI





a popular choice for all types of buildings

FRANK ADAM



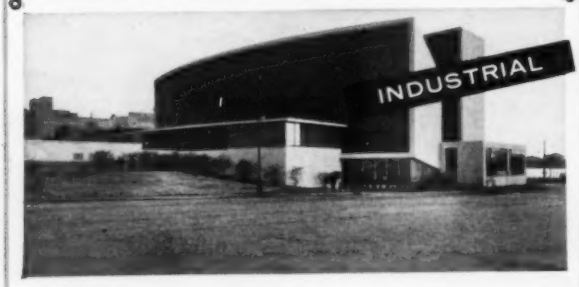
CORAL SEA TOWERS, Miami Beach's newest Cooperative Apartment Building.



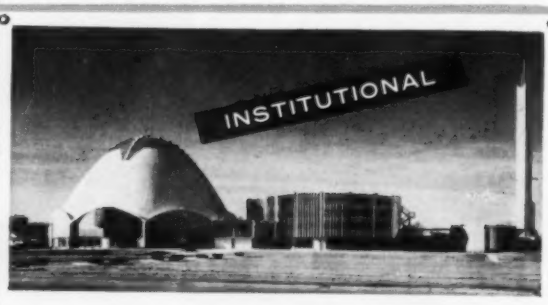
BETTES BUILDING, Oklahoma City, winner of PROGRESSIVE ARCHITECTURE'S design award.



PLYMOUTH MOTOR'S Jefferson Avenue plant, Division of Chrysler Corp., Detroit, Mich.



HENRY AND EDSEL FORD AUDITORIUM, Flint, Mich.



CHURCH OF TOMORROW, the First Christian Church of Oklahoma City.

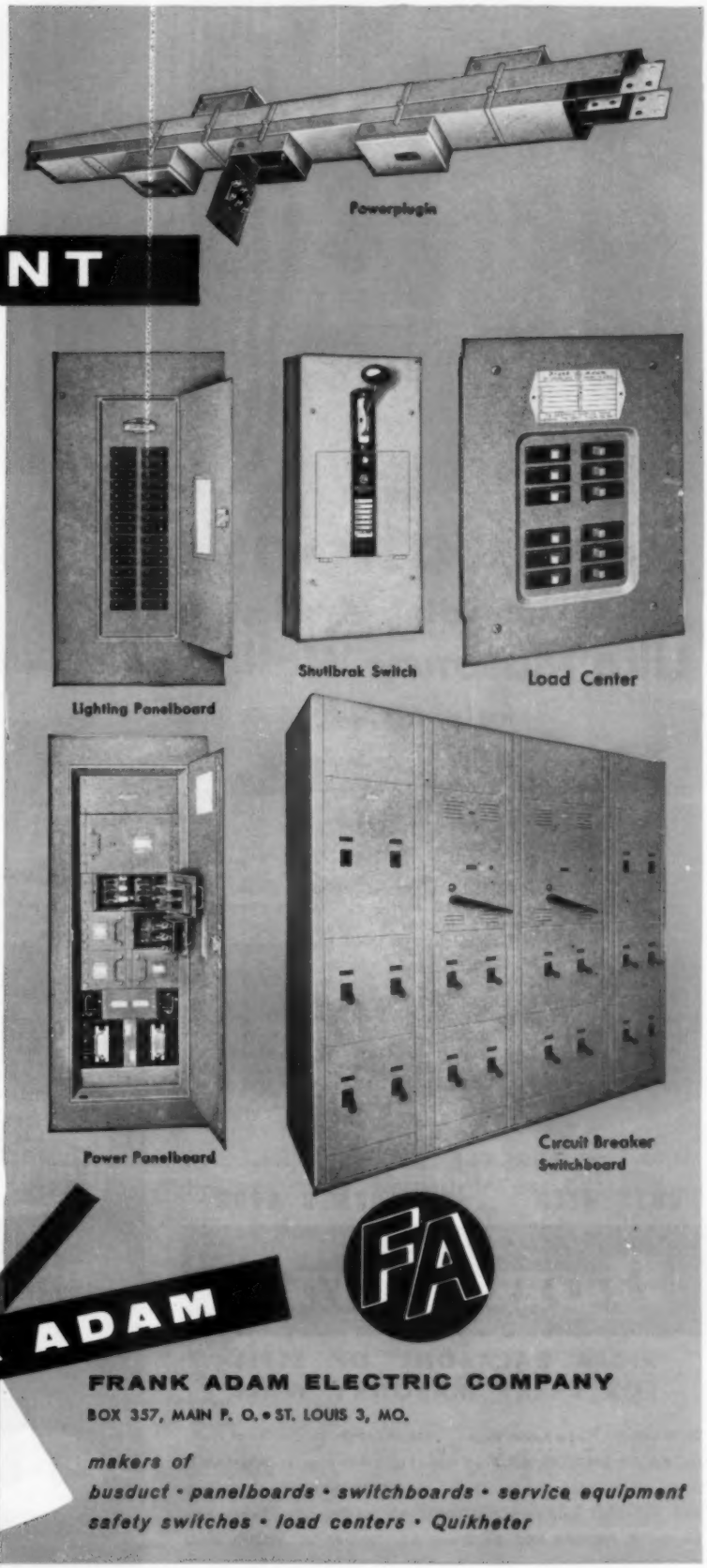
EQUIPMENT

The latest additions to the steadily mounting list of structures—industrial, commercial, institutional and residential—in which equipment designed and produced by Frank Adam Electric Company for the control and distribution of power and light has been installed, are shown on the opposite page.

The designers and builders of these outstanding structures, like so many others in other parts of the country, found, after a careful study that Frank Adam equipment was ideally suited to the needs of these buildings—that products bearing the trade mark (FA) were modern in design, rugged in construction, require less maintenance and give safe, dependable, long-lasting and trouble-free service.

Be sure the next building you design includes the finest equipment for the control and distribution of power and light. Specify Frank Adam electrical products.

For further information about all Frank Adam products, contact your nearest (FA) representative listed in Sweets or your nearest (FA) distributor.



FRANK ADAM

FRANK ADAM ELECTRIC COMPANY

BOX 357, MAIN P. O. • ST. LOUIS 3, MO.

makers of

busduct • panelboards • switchboards • service equipment

safety switches • load centers • Quikheter



Reputations

in the Building Trade, Like Masonry Walls,

Rely on

DUR-O-WAL

for strength!

Throughout the nation leaders in the building industry are depending increasingly on Dur-O-waL, the masonry reinforcement of proven performance. This high quality, custom-fabricated reinforcement sets the standard for the world.

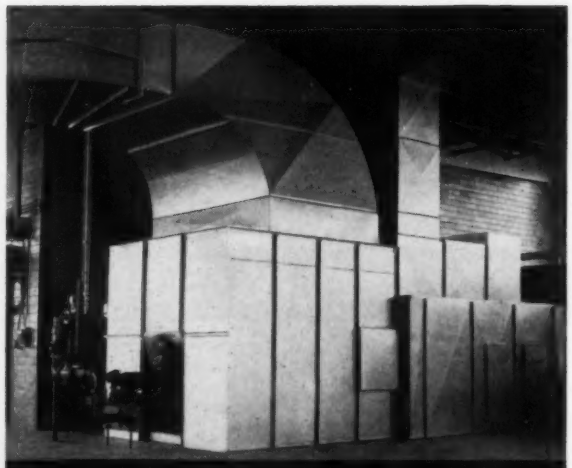
Masons prefer Dur-O-waL because its butt-welded rods lie straight and flat in tight mortar joints. Architects specify it because **Dur-O-waL has more pounds of steel per foot** and double mortar locks to assure permanent walls of flawless beauty. Safeguard your reputation for sound judgment by insisting on the finest. Accept no substitutes. Choose Dur-O-waL . . . available everywhere.

TRUSSED DESIGN
BUTT WELD DEFORMED RODS

DUR-O-WAL

RIGID BACKBONE OF STEEL FOR EVERY MASONRY WALL

Dur-O-waL Div., Cedar Rapids Block Co., **CEDAR RAPIDS, IA.** Dur-O-waL Prod., Inc., Box 628, **SYRACUSE, N. Y.** Dur-O-waL of Ill., 119 N. River St., **AURORA, ILL.** Dur-O-waL Prod. of Ala., Inc., Box 5446, **BIRMINGHAM, ALA.** Dur-O-waL Prod., Inc., 4500 E. Lombard St., **BALTIMORE, MD.** Dur-O-waL Div., Frontier Mfg. Co., Box 49, **PHOENIX, ARIZ.** Dur-O-waL, Inc., 165 Utah St., **TOLEDO, OHIO**



Jackson & Church furnaces

solve difficult heating problems of new Crown Cork and Seal plant —

INSTALLATION DATA

PLACE:
New lithograph plant of Crown Cork & Seal Company's Can Division, Philadelphia, operating five of the latest litho presses and five coaters and ovens

REQUIREMENTS:
Dependable heating designed to supply large volume of fresh outside air replacing oxygen consumed by lithograph equipment. Summer air conditioning to utilize same ducts and fans

HEATING UNITS SPECIFIED:
Three JACKSON & CHURCH GA-4750 units, having a total air delivery of 120,000 C.F.M. and 14,250,000 Btu input

MANUFACTURER:
JACKSON & CHURCH - Div. of YORK-SHIPLEY, INC. York, Pa. (J-C furnaces - America's largest & most complete warm air heating line)

DISTRIBUTOR:
Furnace Distributors, Inc. Philadelphia, Pa.

INSTALLER: Consolidated Air Conditioning



Modern facade of Crown Cork & Seal Company's new plant in Philadelphia.

J-C **JACKSON & CHURCH**
Division of
YORK-SHIPLEY, INC.
P.O. BOX 349, YORK, PENNSYLVANIA

Finest complement to
modern building design . . .

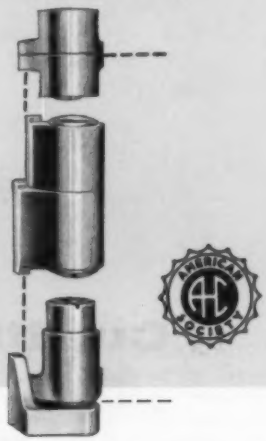
THIS PERFECT DOOR-TRIM COMBINATION!



The perfect blending of both beauty and performance has made Corbin Door Trim the first choice in finishing hardware. Corbin's advanced styling, faultless precision, and smooth, luxurious operation speak quality *throughout* your new buildings . . . meet every requirement for the architect's creative designs . . . minimize installation costs and maintenance.
Ask your dealer for full information about Perfect Door Trim by Corbin. Also, about other finishing hardware from Corbin's complete line—the world's most widely used builders' hardware!







CORBIN "400" Door Closer

World-famous for compactness, trouble-free, long life, and low cost per year of service. The Corbin "400" is recognized as the strongest, most versatile door closer ever made. Modern streamlined design projects but 1¾" from door face. One size housing in 5 spring sizes effectively handles *any* door closer installation. Multiple speed and "silence" adjustments provide any combination of latching and closing — with *no audible contact* between door and stop. Avaliable with hold-open attachment and fusible link arms.

CORBIN Heavy Duty UNIT Locks

Time-tested in many of America's largest buildings. Striking simplicity of the Melody Design is distinctive of the solidity and strength of all Corbin UNIT Locks. Locksets are pre-assembled for easy, fast *one-piece* application — fine, accurate lockmaker's adjustments are never disturbed. No mortise required. Available in 20 functions. Cast brass, bronze or aluminum metals in all popular finishes. Also, Corbin "900 Series" UNIT Locks . . . a smaller UNIT lock designed for schools, hospitals, commercial, industrial, and public buildings.

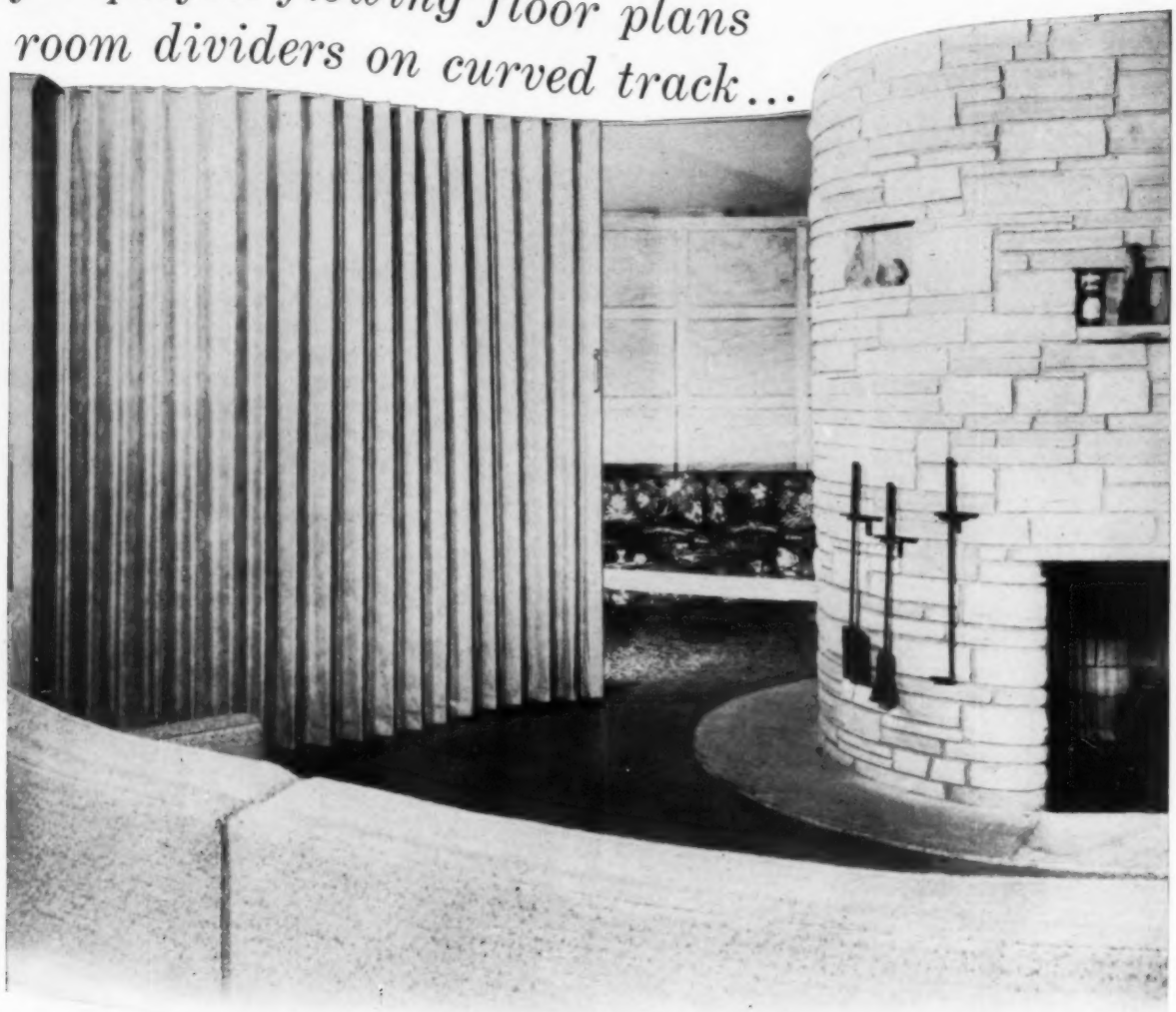
CORBIN Pivot Hinges
(Adjustable Ball Bearing)

The finishing hardware touch for perfect door performance. Corbin Pivot Hinges are truly anti-friction — thrust and radial loads are absorbed by separate bearings. Adjustment is provided for equal distribution of load on the pivots. Top, Intermediate, and Bottom hinges may be used in various combinations to meet all door requirements.

P & F CORBIN
Division
The American Hardware Corporation
New Britain, Connecticut

Good buildings deserve **CORBIN** Hardware

for perfect flowing floor plans
room dividers on curved track...



by **Curtition...**

Makers of Quality Folding Doors Covered in **TOLEX®**

Flexible folding doors permit quick, practical partitioning of any area. To be sure these smart modern room dividers will withstand years of flexing without cracking or peeling, be sure they're made of TOLEX . . . the finest quality supported vinyl covering material. There are TOLEX colors, patterns and effects to fit any interior decorative scheme . . . all easily cleaned with a damp cloth.

When specifying folding doors and room dividers, be sure they are covered in TOLEX . . . like this famous Royalfold door by CURTITION Corporation, Los Angeles, California.

REMEMBER! MAJOR MAKERS OF FOLDING DOORS USE TOLEX...

for their names, write:

THE GENERAL TIRE & RUBBER COMPANY

TEXTILEATHER DIVISION • Toledo 3, Ohio

GENERAL® PLASTICS
The General Tire & Rubber Company



This Sylvania Fixture casts a bright new light on scientific research ... for this large industrial manufacturer



Upward light component on Sylvania NTWS fixtures means more and better light on the job. Reflector slots also induce lamp-cleaning upward "chimney" draft.

For over half a year, Sylvania NTWS industrial lighting fixtures have been on the job at the new physics research laboratories of one of the country's largest industrial firms.

These semi-direct lighting units maintain the high 70-80 footcandle levels needed for critical seeing tasks, in studying the electrons which surround the atomic nucleus, in developing a long list of new products based on these studies.

Spearheading new trends in industrial lighting, Sylvania NTWS fixtures deliver a full 10% upward light component through slots in reflectors. This increases illumination efficiency and total light output. *It mellows harsh overhead contrasts ... softens eye-straining shadow and glare spots at working level.*

"The Sylvania fixtures were selected because they met specifications set forth by our General Engineering Department, at a realistic price," reports an engineering representative from these laboratories. "In 8 months of use, there has been no drop in efficiency, no repairs have been required, and lamp replacement is rapid and easy."

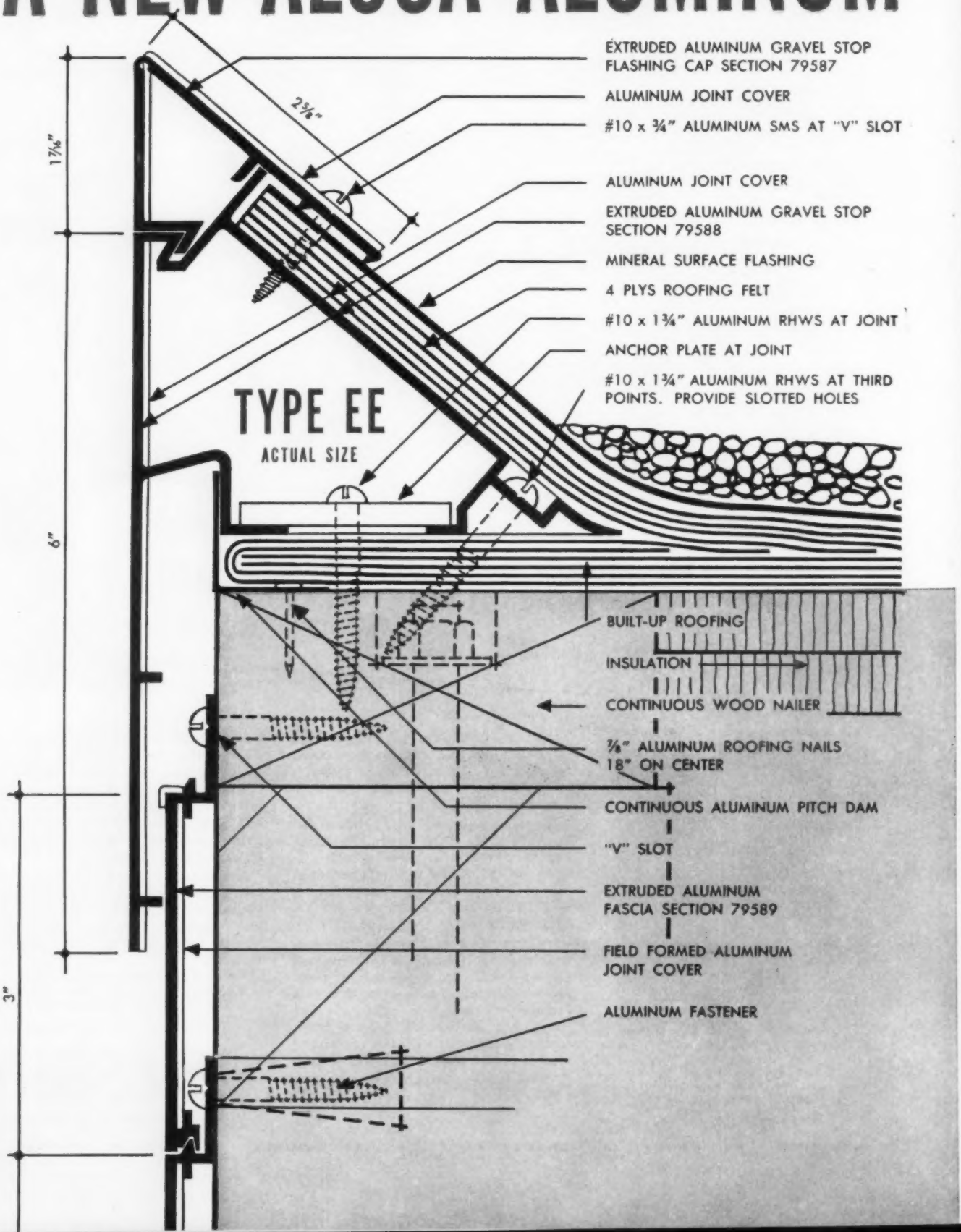
For expert lighting assistance, contact the Sylvania Fixture Specialist in your area. And write direct for our *free* new helpful booklet No. V-501, *"Prescribed Lighting Protects the Eyes of Industry."*

SYLVANIA ELECTRIC PRODUCTS INC.
Dept. G30, Lighting Division—Fixtures
One 48th Street, Wheeling, W. Va.

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fastest growing name in sight

LIGHTING • RADIO • ELECTRONICS • TELEVISION • ATOMIC ENERGY

A NEW ALCOA ALUMINUM



GRAVEL STOP

that answers all the problems of sound design

- **Concealed joint covers**
- **Integral cant strip**
- **Fascia extension provides smooth fascia line**
- **A 2-piece self-aligning system that is rapid and convenient to install**

Detail drawing in actual size at left

All the inherent advantages of aluminum edging for built-up roofing are found in new Alcoa® Gravel Stop Type EE: long life, low maintenance and low cost—tested and proved in the severest industrial and seacoast atmospheres.

In detail, this new gravel stop Type EE has concealed joint covers, integral cant strip and provision for fascia extensions. The joint cover is inserted in slots behind the gravel stop fascia to assure a smooth fascia line. The cant strip is an integral part of the gravel stop, making it leakproof and furnishing ample strength to prevent break-through of the flashing. Fascia extensions may be used to achieve a deep fascia band if desired, and a soffit trim is available for overhang and marquees. The use of a pitch dam prevents roofing compounds from marking the walls. This 2-piece system forms a self-aligning unit. Application of the flashing cap over the cant strip flashing assures rapid, convenient installation.

For complete specifications and data about gravel stop Type EE, and other Alcoa Gravel Stops, Coping and Roofing Products, call your nearest Alcoa sales office or write Aluminum Company of America, 1888-H Alcoa Building, Pittsburgh 19, Pa.

Your Guide to the Best in Aluminum Value

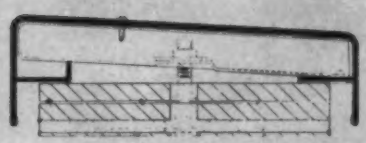
THE ALCOA HOUR
TELEVISION'S FINEST LIVE DRAMA
ALTERNATE SUNDAY EVENINGS

ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA

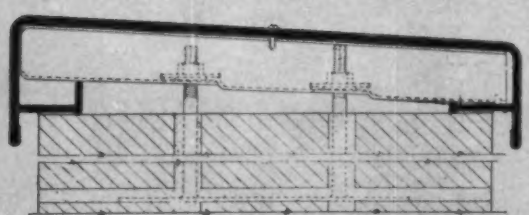
Coping

Alcoa's Coping Systems for 8″ and 12″ walls have newly developed anchor gutter bars which anchor the extrusion firmly, assuring watertight joints. Joint covers and corner miters continue the clean contours of the main unit and provide a complete coping system.

TYPE G-8



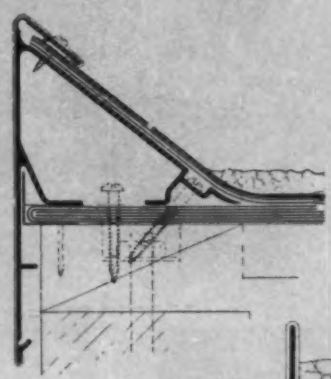
TYPE G-12



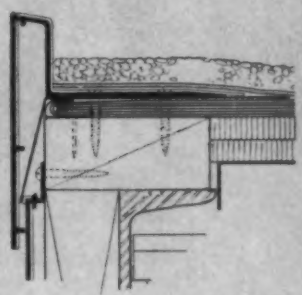
Other Alcoa Aluminum Gravel Stops

Alcoa Gravel Stop Type E combines gravel stop, cant strip and fascia band in a rugged, watertight, firmly anchored unit that makes an ideal terminal cap for bonded roofing. Type F features an integral fascia and is a simply installed roof terminal unit at minimum cost. Type FF, with fascia extensions or soffit trim, has a smooth, uninterrupted eave line and is designed with a concealed joint cover.

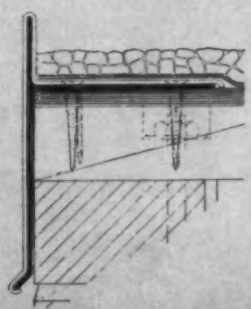
TYPE E



TYPE FF



TYPE F



Got a Space to Span?

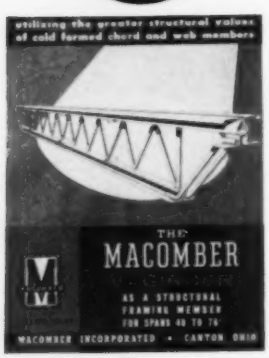


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COMBINE THE BEST IN DESIGN AND STRUCTURAL ADAPTABILITY

A STRONGER FLOOR AND ROOF SUPPORT 40′ TO 76′ SPANS



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Check your loads and spans with a V-Girder Catalog and ask for a quotation. One job will be convincing.

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the quality tells . . . the quality sells

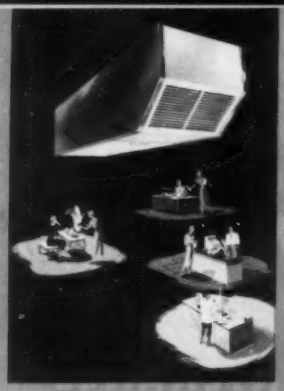
new **JANITROL** AIR COOLED

packaged air conditioner





Flexible and compact—
fastens to ceiling or
stands upright on floor . . .
adaptable for duct system.



Versatile new

JANITROL

packaged waterless cooling conditioner

Makes installation easy, even in those "problem" locations—brings new efficiency and beauty into the picture, too!





Nothing in air conditioning matches the versatility and performance of this brilliant new Janitrol "packaged" air cooled cooling conditioner.

It adapts itself to most every installation situation you'll ever face in commercial and light-industrial applications . . . because it can be fastened to the ceiling or positioned vertically on the floor, and is readily adaptable for use with a duct system. Either way, big savings in space result. Waterless operation eliminates time-consuming plumbing, allows operation in areas of water scarcity. And it's as easy on the ears as it is on the eyes, because all moving parts except the blower are contained in the remote, air-cooled compressor unit. Thus operating noises are isolated from the conditioned area.

Now, even more than before, you can count on Janitrol for the right "packaged" conditioner at the right price . . . air-cooled and water-cooled models . . . combination heating-cooling conditioners for year round application. All backed by Janitrol's reputation for quality, dependability and expert technical assistance. Ask your Janitrol representative for full details.

REMOTE COMPRESSOR-CONDENSER UNITS FURNISHED WITH NEW JANITROL AIR-COOLED PACKAGED CONDITIONER

CAPACITIES*



SRA-7 22,000 btu.
SRA-9 35,000 btu.
A-401 & 403 47,500 btu.
SRA-11 58,500 btu.



A-603 76,000 btu.

*95° F. Dry Bulb air entering condenser, 80° F. Dry Bulb, 67° F. Wet Bulb air entering evaporator, approximately 400 CFM per 12,000 btu.

ARCHITECTS, ENGINEERS AND CONTRACTORS INFORMATION SERVICE

Write today for complete A.I.A. files on Janitrol cooling and heating in buildings of every type, and for Janitrol specifications service. There's no obligation.

Janitrol SAC and SACF water-cooled conditioners



◄ **Model SAC**—has built-in filters and blower, connects to present duct system.

Model SACF — packaged, console-type unit operates without duct connections. ►



Compact, smartly styled, easily adapted to existing space. Optional 2-stage operation with SAC-60 5 h.p. models. Two separate compressors are provided—a 2 h.p. and a 3 h.p. In mild weather, the 3 h.p. stage controls humidity without overcooling. The 2 h.p. stage turns on automatically when rising temperatures demand full cooling power. Controlled sequence starting. Capacities* 26,800, 36,900 and 63,700 btu.

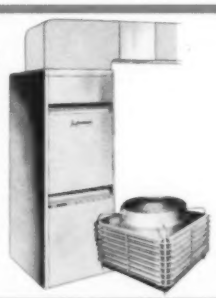


JANITROL WIN-SUM-MATIC YEAR 'ROUND CONDITIONER

Combines thrifty gas heating, waterless cooling in little as 4½ sq. ft. of floor space. Unique bypass eliminates heat exchanger resistance on cooling cycle, gives correct air flow for heating and cooling without seasonal adjustments. Air cooled Pride O' Yard unit is low, sleek, efficient . . . shames ordinary "doghouse" models. ADD-ON cooling option —install for heating only, add cooling later. Upflow and downflow models, 100,000 and 140,000 btu./hr. heating, 22,000 to 58,500 btu./hr. cooling capacities*.

JANITROL SRA ADD-ON COOLING

Adapts most any warm air furnace for thrifty, efficient central cooling. Cooling coil mounts in duct, beautiful air cooled Pride O' Yard unit goes outside. Powerful, quiet performance with outside temperatures to 125° F. Easy to install, moderately priced. Waterless operation eliminates plumbing, sewage, water supply problems. 22,000, 35,000 and 58,500 btu./hr. Capacities*.



JANITROL GAS-FIRED DUCT FURNACES



Designed for installation in a duct where the air is circulated by a remote fan. Especially adaptable for industrial heating applications in combination with cooling. Low in cost, save installation time and labor. Unit sizes from 85,000 to 300,000 btu./hr. New 200,000 and 300,000 btu./hr. units may be combined to provide unlimited capacity range.

JANITROL HEATING AND AIR CONDITIONING DIVISION
SURFACE COMBUSTION CORPORATION
COLUMBUS 16, OHIO
In Canada: Moffat Heating & Air Conditioning Division
Moffats, Ltd., Toronto 15

Also Makers of *Surface* Industrial Furnaces, *Kathabar* Humidity Conditioning, *Janitrol* Residential Heating and Cooling Equipment.

HOFFMAN

CENTRIFUGAL TYPE

WATCHMAN

CONDENSATION PUMP

QUIET — EFFICIENT — LONG LIFE — LOW MAINTENANCE

THOUSANDS SPECIFIED AND INSTALLED!

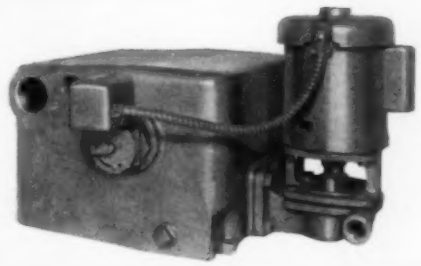
Featuring: CAST IRON RECEIVERS—BRONZE FITTED PUMP WITH STAINLESS STEEL SHAFT—ONE PIECE BRONZE IMPELLER—HEAVY DUTY DOUBLE POLE FLOAT SWITCH.

3450 RPM MOTORS, DESIGNED ESPECIALLY FOR PUMP MANUFACTURERS WHERE SELECTION OF SPEED AND QUIET OPERATION TOGETHER WITH LONG PUMP LIFE IS ESSENTIAL

WC-8-20 SINGLE UNIT

FOR SYSTEMS UP TO 8,000 SQ. FT. E. D. R. AND 20 LBS. DISCHARGE PRESSURE

RATING: 500 to 8,000 sq. ft. E. D. R.
PUMP CAPACITY: 12 gallons per minute.
PRESSURE: 20 lbs. per sq. in. at pump discharge.
RECEIVER CAPACITY: 9 gallons.
MOTOR: ⅓ H.P., 3450 RPM, single phase, 60 cycle, dual voltage - 115/230, thermal overload protection.
SHIPPING WEIGHT: 180 lbs.

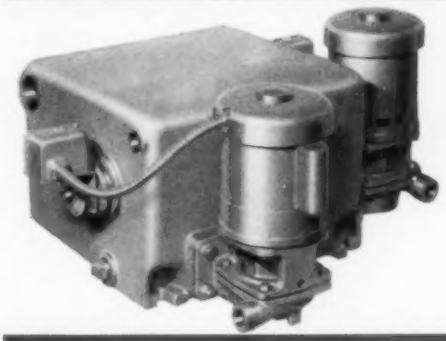


WCD-8-20 DUPLEX UNIT

(TWO MOTORS—TWO PUMPS—TWO FLOAT SWITCHES)

FOR SYSTEMS UP TO 8,000 SQ. FT. E. D. R. AND 20 LBS. DISCHARGE PRESSURE

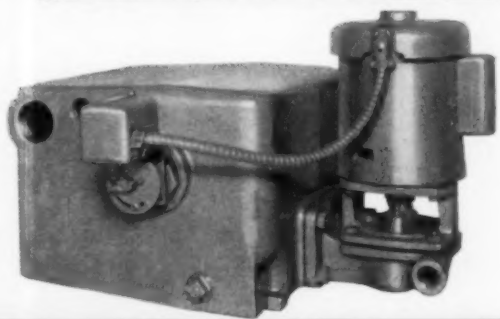
RATING: 500 to 8,000 sq. ft. E. D. R.
PUMP CAPACITY: 12 gallons per minute.
PRESSURE: 20 lbs. per sq. in. at pump discharge.
RECEIVER CAPACITY: 14 gallons.
MOTOR: ⅓ H.P., 3450 RPM, single phase, 60 cycle, dual voltage - 115/230, thermal overload protection.
SHIPPING WEIGHT: 300 lbs.



WC-12-20 SINGLE UNIT

FOR SYSTEMS UP TO 12,000 SQ. FT. E. D. R. AND 20 LBS. DISCHARGE PRESSURE

RATING: To 12,000 sq. ft. E. D. R.
PUMP CAPACITY: 18 gallons per minute.
PRESSURE: 20 lbs. per sq. in. at pump discharge.
RECEIVER CAPACITY: 14 gallons.
MOTOR: ⅓ H.P., 3450 RPM, single phase, 60 cycle, dual voltage - 115/230, thermal overload protection.
SHIPPING WEIGHT: 230 lbs.



HOFFMAN SPECIALTY MFG. CORP.
1700 W. 10th STREET · INDIANAPOLIS 7, INDIANA



Even in Hot Dry Climates...

Fenestra FENLITE Windows

NEED NO PAINTING

Regardless of your climate or location, New Fenestra® FENLITE Intermediate Steel Windows are the answer to expensive window maintenance problems. They give you distinctive appearance, lifetime corrosion resistance without painting, *plus* the strength of steel. *And, they cost no more than ordinary steel windows with two-coat field painting.*

This new corrosion-resistant steel window is produced by an exclusive Fenestra process developed through years of research and testing. The FENLITE process alloy-bonds a lifetime zinc surface with the steel of the window. It includes a special chemical polishing conversion coating treatment that protects the surface against the natural early corrosion of free zinc. The window is also prepared for a tight glazing compound bond and for decorative painting, if desired. *Maintenance protective painting is not required.*

Precision electronic control is necessary for every step in the FENLITE process. *The windows must be completely submerged in one dip in each bath!* Fenestra's specially designed "million-dollar" plant is the only one in America with facilities to produce FENLITE.

If you have the responsibility of planning new schools or other fine buildings, Fenestra FENLITE Intermediate Windows give you other important benefits, too. Their slim, but strong, steel sections provide more daylight per window opening. Their sturdy hardware cannot loosen or "strip out". They are always easy to operate and you can clean and screen them from inside the rooms.



For more information on Fenestra FENLITE Intermediate Windows, call your local Fenestra representative—listed in the Yellow Pages—or mail the coupon below.

The Fenestra FENLITE Finish is also available on the complete line of Fenestra Industrial Steel Windows for manufacturing and commercial buildings.

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Your Single Source of Supply for
DOORS • WINDOWS • BUILDING PANELS

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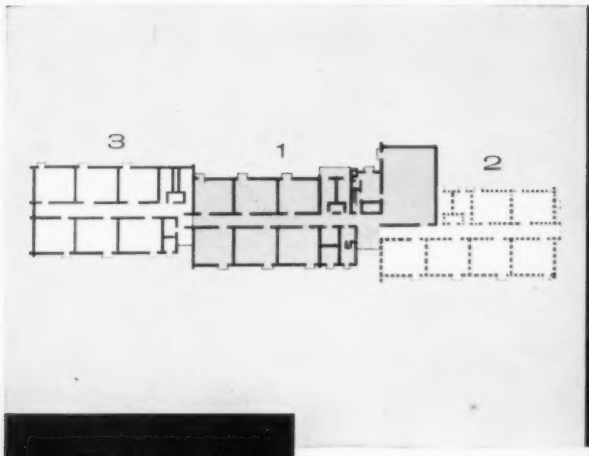
Please send me more information on Fenestra FENLITE Intermediate Steel Windows.

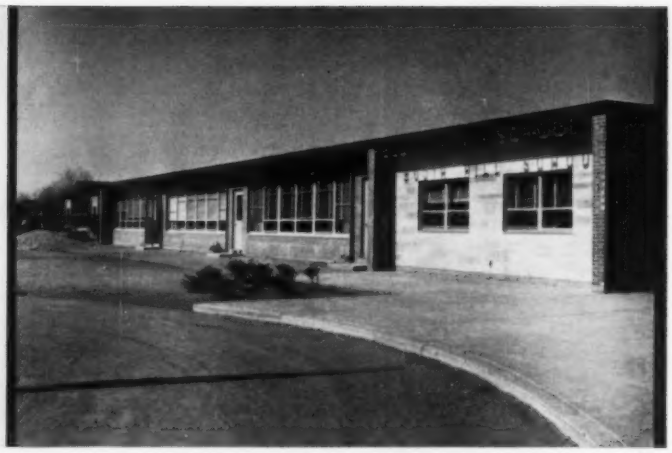
NAME _____

FIRM _____

ADDRESS _____

CITY _____ STATE _____





Fenestra
SCHOOL DESIGN NEWS

View of the Booth Hill School shows basic Module No. 1 to which Module No. 3 is being added (photo at right). School construction costs average $12.01 per square foot as compared with $17.00 to $18.00 for schools in this area of conventional design and materials. **Architect:** Jesse James Hamblin, Bridgeport, Conn. **Contractor:** (Module No. 1) The Frouge Construction Co., Bridgeport, Conn.

How modular planning helps Trumbull, Conn., schools

HOLD DOWN CONSTRUCTION COSTS

As in so many communities today, the Trumbull, Connecticut, school system is literally bursting its britches.

Fortunately, however, the farsighted school board selected a modular concept of design easily adaptable to various sites. This permits economical construction and expansion of school buildings, despite constantly increasing building costs.

The building system includes a basic school unit, Module No. 1, consisting of six classrooms, administrative offices and a large multipurpose room (with kitchen) which can be used as a cafeteria, recreation and assembly area. To this basic unit can be added other modules of six classrooms each as the need arises, at a minimum of expense.

The secret of the system is in the use of standard building material components. For instance, the roof and ceiling construction of each module classroom unit is built of modular Fenestra* Acoustical-Structural Building Panels.

These lightweight, high-strength steel panels combine structural roof and finished interior ceiling with *built-in acoustical treatment* in one compact easy-to-handle package. They replace *five* different materials —usually requiring extra labor and cost—with *one* metal building unit, erected in *one* operation, by *one* trade.

In addition, the Trumbull, Connecticut, schools are designed to utilize the panel cells as ducts for ventilation, with exhaust fans mounted on the roof. Another Fenestra plus!

The flat bottom surface of the panels is perforated for the acoustical ceiling. An exclusive Fenestra preformed, arched, sound-absorbing batt† is enclosed *inside the panels* to provide noise reduction coefficients up to 80%. And because the ceiling plate is a part of the structural panel, it is made of 16-gauge steel—4 times thicker than usual metal-pan ceilings. This assures extra resistance to damage by objects thrown against the ceiling or other impacts—an especially important feature for gymnasiums, corridors, etc.

The compact construction, 7½ inches in depth, provides a reduced height in the building—thereby eliminating several brick courses throughout.

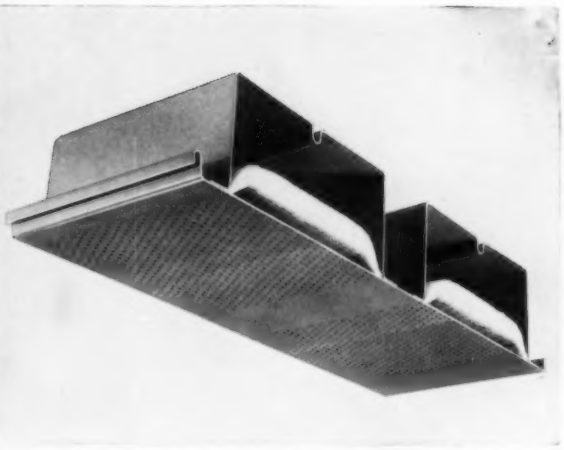
Cellular in design, Fenestra Building Panels combine light weight with great strength. Under normal roof loads they span up to 31 feet. Their width, 24 inches, fits perfectly with modular design techniques. This speeds up construction and eliminates cutting and fitting of panels and other materials on the job.

If you are now planning a new school building or addition, you should get complete details on Fenestra Acoustical-Structural Building Panels. Mail coupon at right for your FREE copy, or call your Fenestra representative.

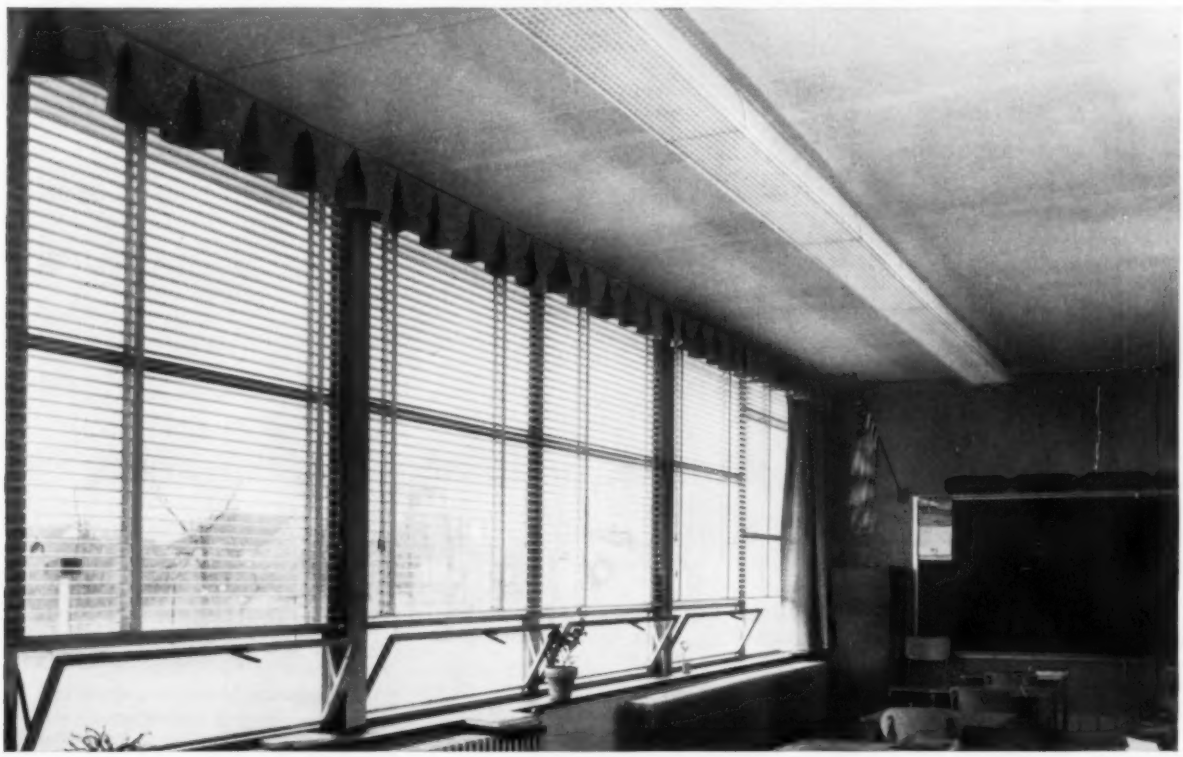
*Trademark †Patent Pending



Fenestra Acoustical Building Panels provide a platform for workmen, speed roofing operation, get classrooms under cover fast for quicker starting of interior work. **Contractor:** (Module No.3) The Monaco Construction Co., Bridgeport, Conn.



The Fenestra Acoustical "D" Panels, which span the classroom below, can be washed or painted whenever needed without affecting the acoustical qualities of the ceiling. Width—24"; Depths—1½", 3", 4½", 6" and 7½".



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YOUR SINGLE SOURCE OF SUPPLY FOR BUILDING PANELS · DOORS · WINDOWS

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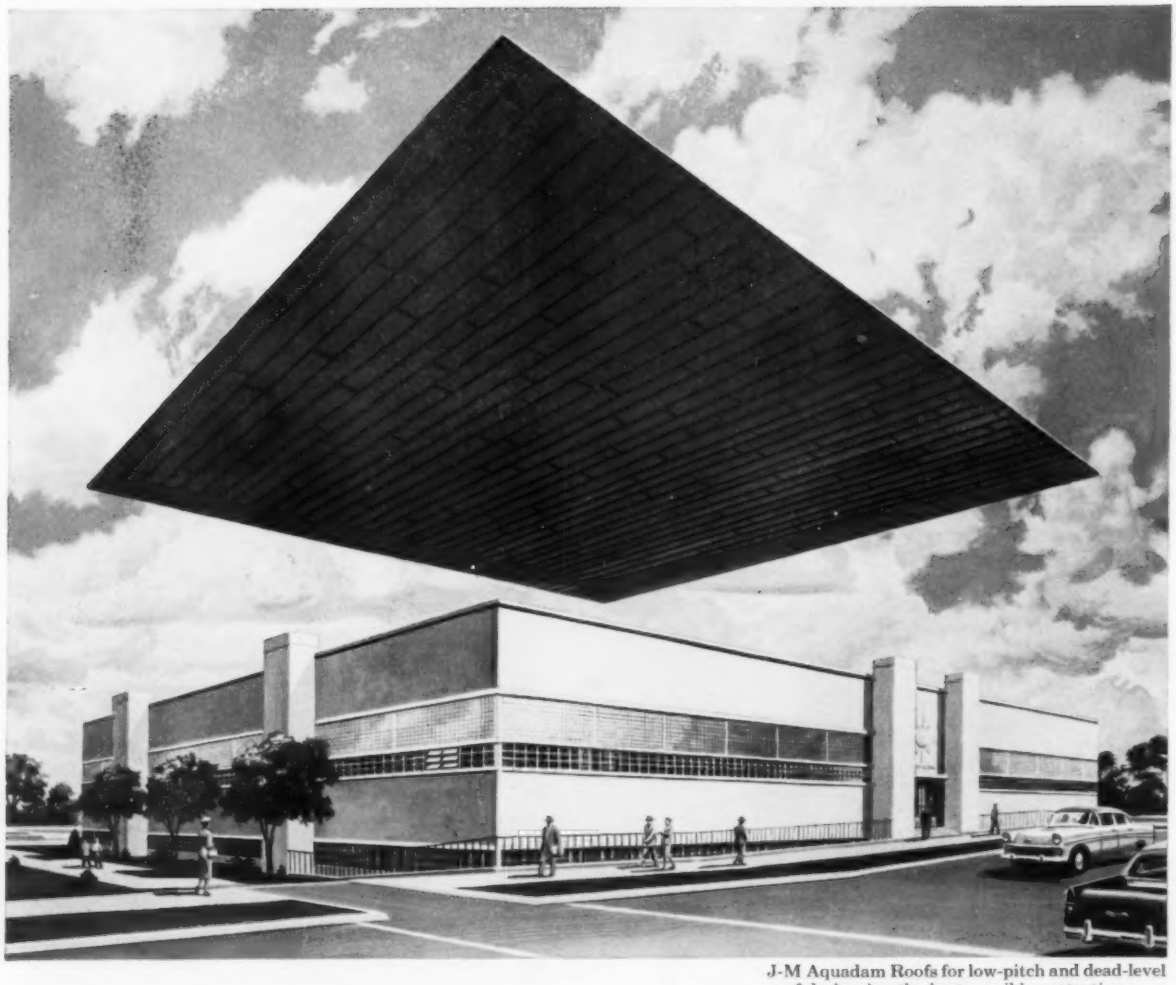
Please send me FREE copy of *1957 Fenestra Building Panel Catalog* including details on Fenestra Acoustical-Structural Building Panels for schools.

NAME _____

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J-M Aquadam Roofs for low-pitch and dead-level roof decks give the best possible protection.

For lasting protection to buildings and contents

Specify Johns-Manville Aquadam® Built-Up Roofs——and be sure

J-M Aquadam Roofs owe their superiority to Aquadam, the modern cementing agent used in the application of the roofing felts. Aquadam, by laboratory test and years of actual performance, is considered the best dead-level bitumen on the market today. It is designed to encompass the best features of coal tar pitch and of asphalt without their weaknesses.

Aquadam Built-Up Roofs employ Asbestos felts for smooth-surfaced roofs, rag felts for gravel- or slag-surfaced roofs.

When you specify J-M Aquadam Built-Up Roofs your clients gain these advantages:

1. A roof with approximately twice the ability of typical asphalt roofs to retain its weathering properties on exposure.
2. A roof that reseals and repairs itself after being subjected to the equivalent of summer roof temperatures.
3. A roof that has ductility or the ability to resist cracks from thermal changes or building expansion and contraction.
4. A roof that has high adhesive and permanent bonding properties.

Your Johns-Manville Approved Built-Up Roofing Contractor can help you in the planning of Aquadam Roofs. You'll find him listed in the Classified Section of telephone directories.

For further information about J-M Built-Up Roofs, write: Johns-Manville, Box 158, New York 16, New York. In Canada, write 565 Lakeshore Rd. E., Port Credit, Ont.

THE AMERICAN INSTITUTE OF ARCHITECTS 1857 1957

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—Consult an Architect—use quality materials

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville

Right Combination

FOR SALE AFTER SALE!



PRODUCED IN *41* DECORATOR COLORS PLUS SPARKLING BLACK AND WHITE

Here is the most wanted, therefore most *profitable* bathroom fixture combination you can offer. The industry's first Concave Lavatory* plus the famous Case Non-Overflow One-piece** Water Closet with the whispering flush.

The Case Wellington*** 300 Lavatory is the most wanted because it's the first *really comfortable* lavatory ever made for men and women. Gracefully curved for comfort and unusual beauty. Extra-spacious, wide, flat deck. Shown with art-designed wrought iron legs and towel bars all in one piece. Legs supplied in decorator colors and sparkling black and gold. You already know the Case One-Piece Water Closet and its customer-winning features like non-overflow bowl; safeguarding anti-syphon ballcock; pressurized cleansing rim flush; large water area; healthful seat height; time tested, with streamlined design in 41 colors and black and white. Ask your Case wholesaler or distributor or write:

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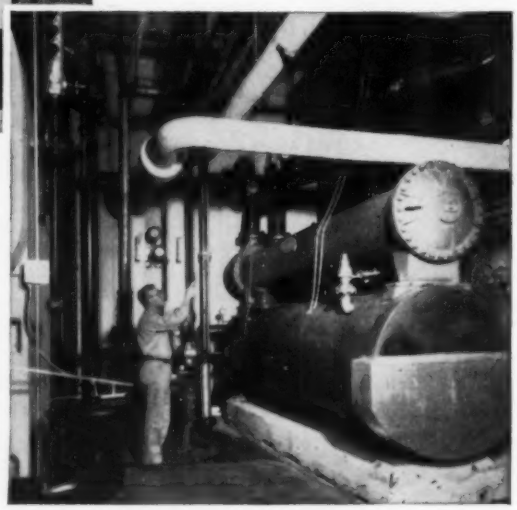
Salt Lake City's new First Security Building is ultra-modern in more than just appearance. It features dual zone air conditioning in which *steel pipe* serves for the steam, chilled water and condenser water lines throughout the 12-floor *heating and cooling* system. Nearly a mile of steel pipe—40,000 pounds— from the basement boiler and chiller installation to the penthouse condensers was required.

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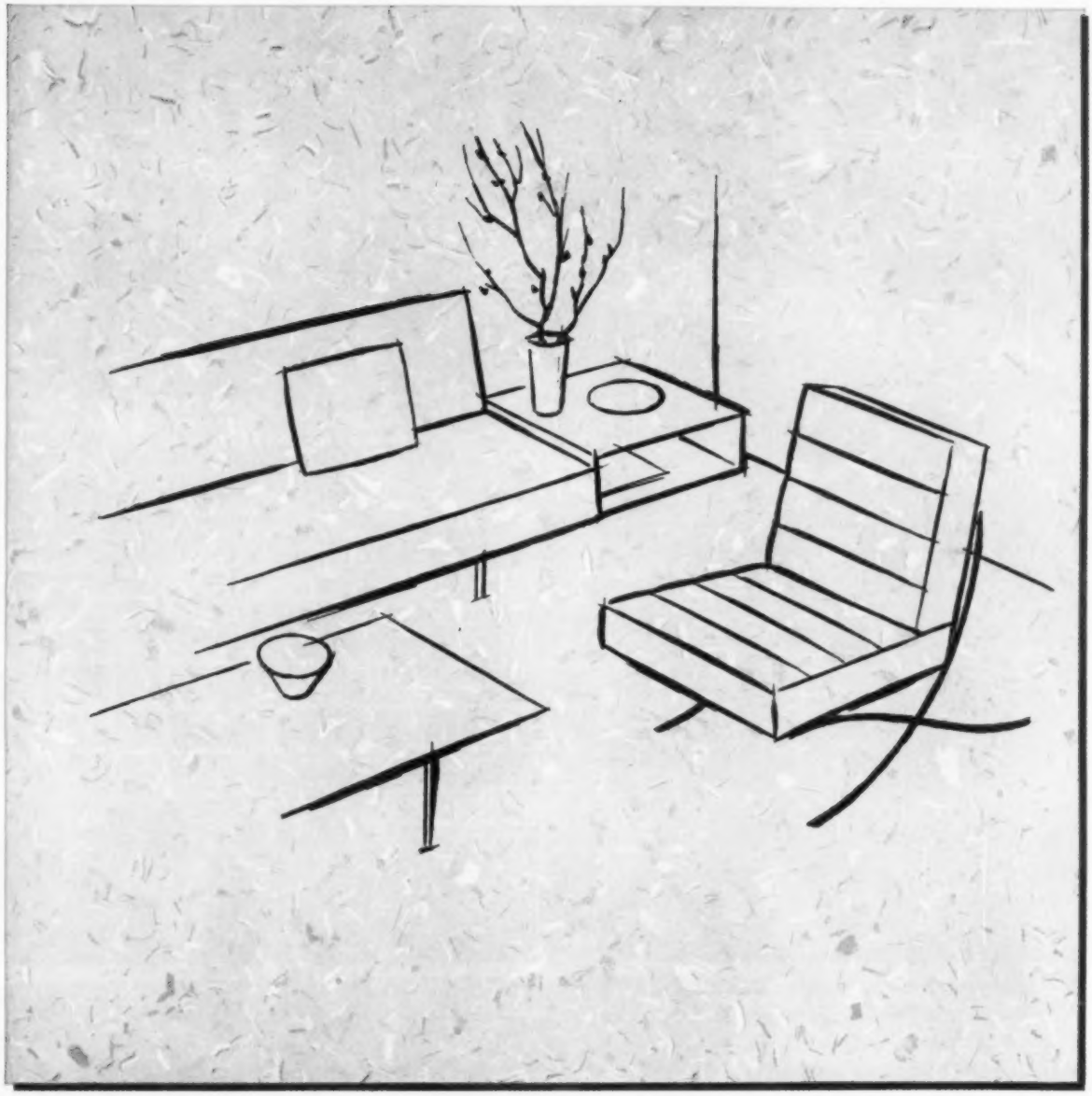
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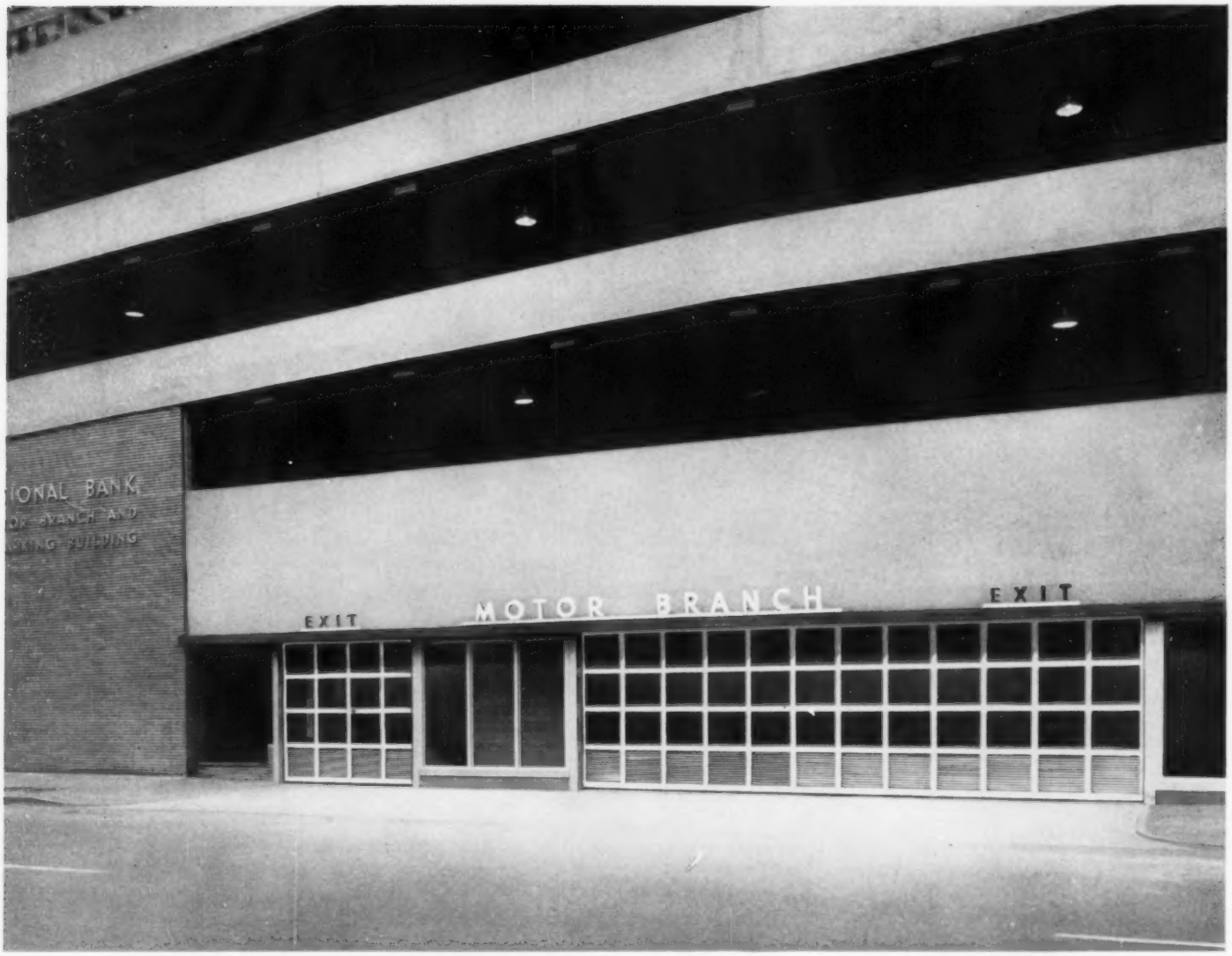
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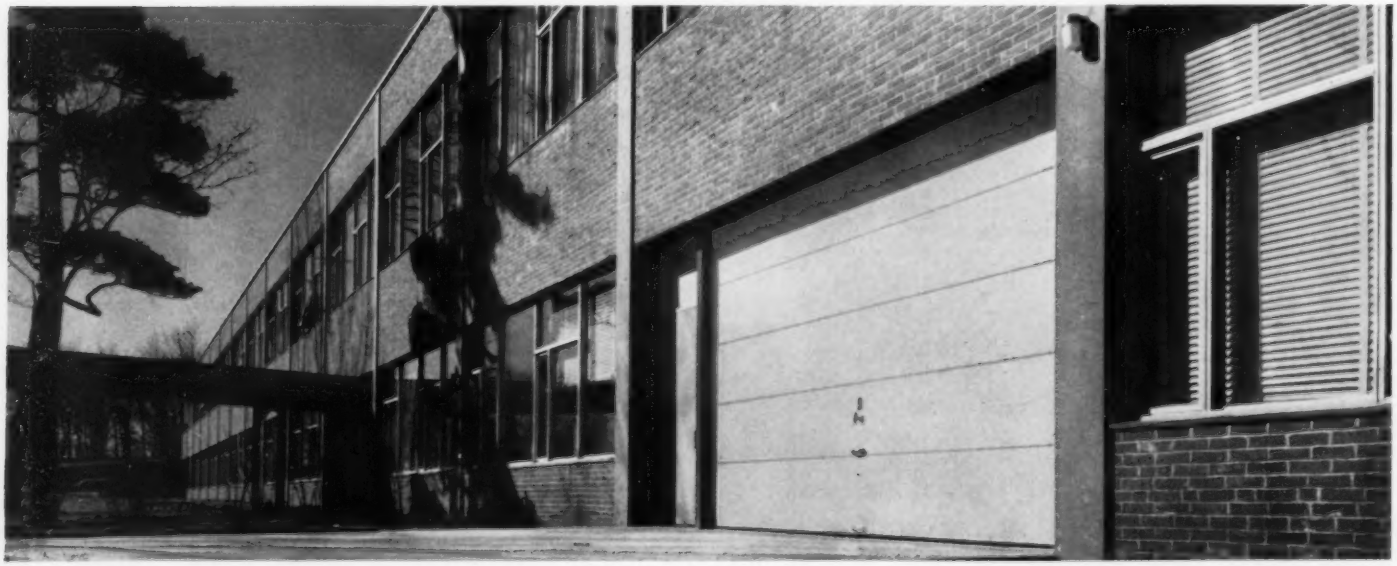
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*Merchants National Bank at Mobile, Alabama, provides drive-in facilities with the addition of a new Motor Branch and Parking Building. Two aluminum "*OVERHEAD DOORS,*" with bottom sections louvered to permit escape of exhaust fumes, give an attractive "store front" appearance to the building. The larger door, 26'9" wide, is matched by a door of the same size and design on the entrance side of the building.*



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Now . . . magnificent doors of lifetime aluminum, built to your own specifications, can add functional beauty to the buildings that take shape from your plans! Constructed in the same time-saving, money-saving way* as the new Panoramic Door that has taken industry by storm, The "OVERHEAD DOOR" in lifetime aluminum has narrower stiles and rails, yet is far stronger than ever before. These doors weigh approximately the same as wood doors. Slightly greater initial cost is offset by the savings in maintenance! The gleaming anodized finish, inside and out, is permanent—never needs paint. Keyway construction permits easy replacement of components if damaged. For details of construction, sizes, special features, see pages 38-39, Sweet's Architectural Catalog $\frac{16i}{Ov}$ or write us for 56-page hard-bound catalog with traceable drawings.

**Patents Pending*

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OVERHEAD DOOR CORPORATION, Hartford City, Indiana
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For 36 Years . . . Architects Have Specified The "OVERHEAD DOOR" More Than Any Other Brand!



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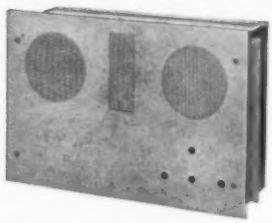
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Model CB3X. Entrance intercom with push-button to operate chimes or doorbell. Circular-louvred opening for 3″ speaker. Finish: white enamel. Includes 22 gauge steel box with ¾″ knock-outs, provisions for mounting speaker. Useful for homes, multiple apartments, small clinics.



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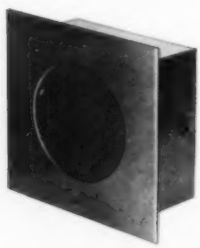
Deluxe Model CK7X. For combination recessed radio and master intercom. 18 gauge rust-proof box with ¾″ knock-outs on all sides. Plate available in either primed coated steel or stainless steel.



Model C5STX. Steel sub-station box and face plate with fine perforated steel mesh grille. Suitable for mounting either 5″ or 6″ speaker, all hardware furnished.



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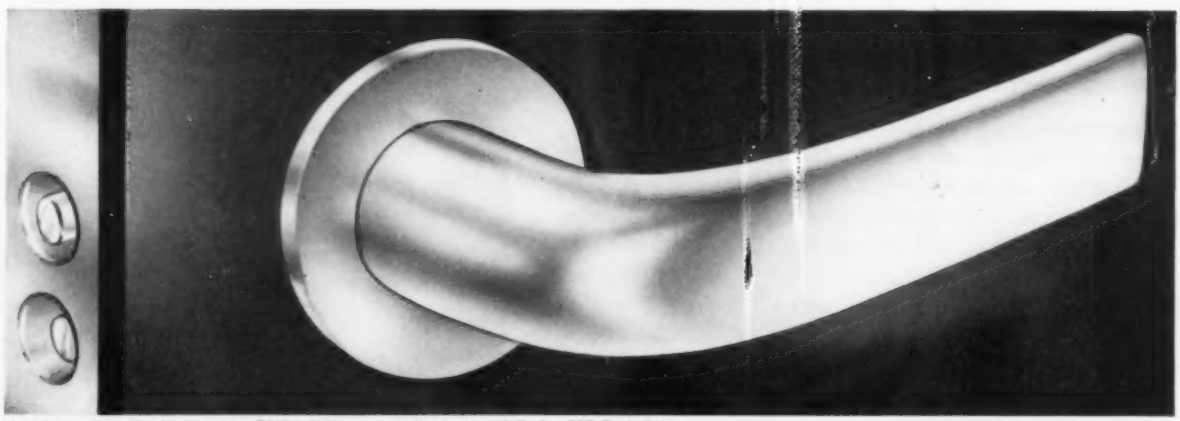
Its name: 375 Park Avenue

Its location: New York City

Its architects: Mies van der Rohe, Philip Johnson, Kahn and Jacobs

Its contractor: George A. Fuller Co.

Among its appointments: The Yale Lever Handle



Yale Lever Handle, designed by Philip Johnson, architect, especially for 375 Park Avenue

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The Imperial Oil Limited Building, Toronto, Canada
Architects: Mathers and Haldenby

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The recently completed Imperial Oil Limited building in Toronto dramatically demonstrates the beauty and strength of stainless steel in facade and interior design. Its high strength makes possible rigid, yet unobtrusive and simple construction for broad expanses of glass. Its soft luster harmoniously contributes to the basic richness and dignity of the design.





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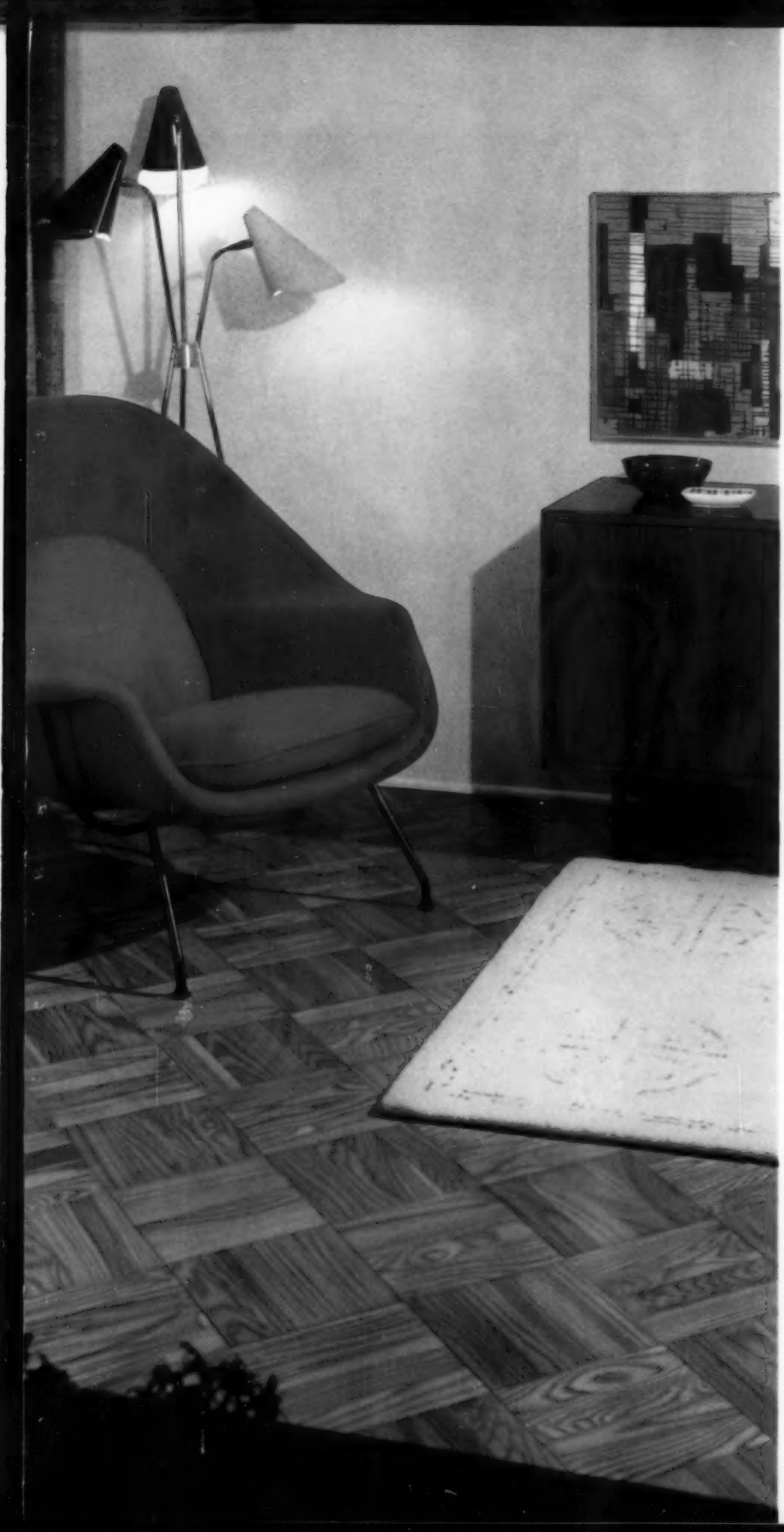
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Your reservation at the ultramodern Philadelphia Sheraton is a reservation for comfort . . . the result of architects and engineers working together as a team to combine modern, functional beauty with traditional Sheraton luxury.

Typical of their teamwork is the air-conditioning system. John K. M. Pryke, consulting engineer, states, "In a planning session, we selected American Blower to supply air-conditioning equipment on the basis of their engineering reputation, and the way their equipment fitted our architect's plans. Then we called in American Blower for specific product information.

"An American-Standard Remotaire unit in each room allows guests to select the climate they want, and permitted architects to use the modern wall-of-glass exterior without fear of heat gains and losses.

"Two American Blower Tonrac® Centrifugal Refrigerating Machines supply chilled water for the entire system, and operate so quietly," Mr. Pryke concludes, "that guests on adjoining floors never hear a sound."

If you're planning to air-condition, call in an American Blower representative at the planning stage for complete product information. American Blower Division of American-Standard, Detroit 32, Michigan. In Canada: Canadian Sirocco products, Windsor, Ontario.



The new 22-story Sheraton Hotel. Architects: Perry, Shaw, Hepburn & Dean; Consulting Engineers: Slocum & Fuller; Builders: McCloskey & Co.; Mech. Contractors: Ambrose-Augusterfer Corp.

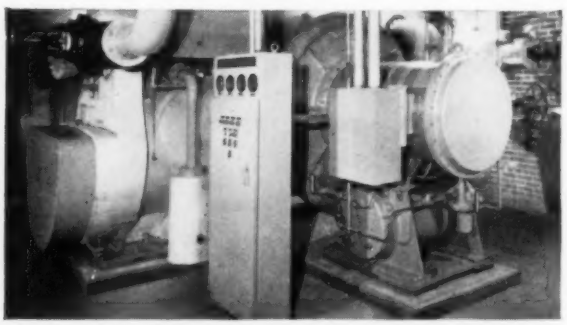
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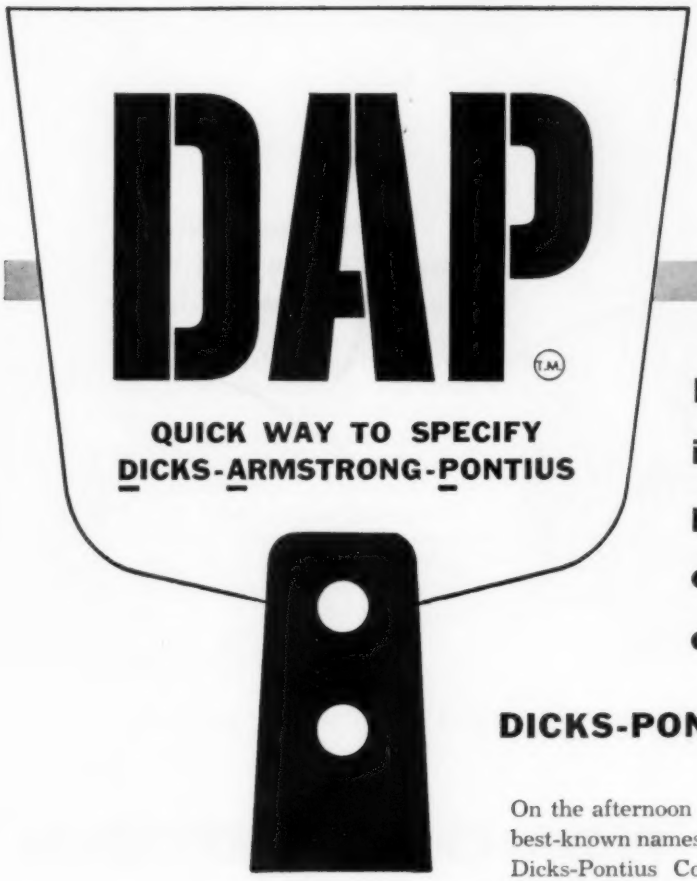
QUALITY PROTECTS YOUR INVESTMENT . . . AMERICAN-Standard
QUALITY IS AVAILABLE AT NO EXTRA COST



Sheraton's engineering team planning comfort. *L. to R.:* J. K. M. Pryke, consulting engineer; R. J. Augusterfer, mechanical contractor; H. B. Prewitt, American Blower; F. B. Mills, Sheraton Corp.; Exec. Vice President H. E. Barth, American Blower; J. C. McCloskey, Jr., McCloskey & Co.



Chilled water for the individual room units is supplied by two 350-ton American Blower Tonrac Centrifugal Refrigerating Machines installed in the fourth-floor master-control center. Tonracs operate quietly, automatically; won't disturb guests on adjoining floors.



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DICKS-PONTIUS and ARMSTRONG

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Bedroom built-ins include roomy wardrobe and drawer unit and built-in bunk beds to permit owners to move in with minimum investment for furnishings.

Carport storage makes up for lack of bulk storage area in garage or basementless homes. Exterior plywood lockers for garden and patio gear fit trend to outdoor living.



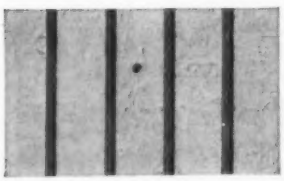
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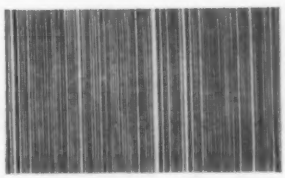
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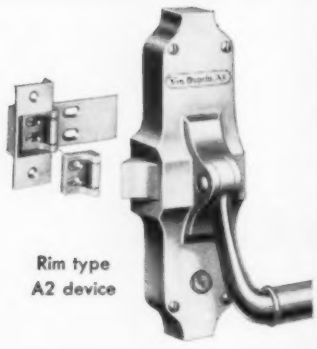
Fir plywood design ideas – New portfolio includes ideas for plywood built-ins, color illustrations and descriptions of new textured panels, specification and construction data. Write (USA Only) Douglas Fir Plywood Association, Tacoma 2, Washington.

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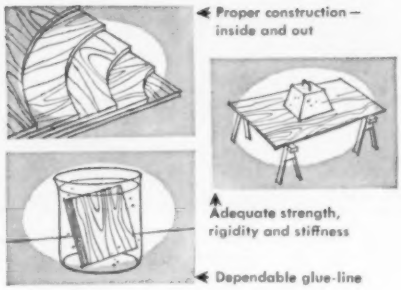
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To qualify for DFPA grade-trademarks, manufacturers must pass rigid and *continuous* inspection of current plywood production. In addition to these on-the-spot mill checks by DFPA quality supervisors, thousands of samples undergo scientific testing in DFPA laboratories. *Use of grade-trademarks may be withdrawn if quality is not satisfactory.*



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*DFPA stands for Douglas Fir Plywood Association, Tacoma 2, Washington—a non-profit industry organization devoted to product research, promotion and quality maintenance.

DFPA grade-trademarks mean quality Fir Plywood



Impact resistance, appearance, and acoustical efficiency were considerations in selecting this gymnasium ceiling of Armstrong Cushiontone.
ASCENSION CATHOLIC HIGH SCHOOL, DONALDSONVILLE, LA. ARCHITECT: LEBLANC AND DEEN, BATON ROUGE, LA. ACOUSTICAL CONTRACTOR: J. PAUL SMITH, BATON ROUGE, LA.

How to sound condition

IN planning modern gymnasiums, economy often dictates that they be designed for meetings and social events as well as for athletic activities.

This creates a problem in obtaining balanced acoustical treatment. When used as a gymnasium, the major consideration is noise-quieting with emphasis on the absorption of irritating high frequency sound. When serving as an auditorium, adequate absorption of low frequency sound is necessary.

The high-pitched noise of gymnasium activities can best be absorbed by acoustical ceilings of Armstrong Cushiontone and Armstrong Minatone. Cushiontone absorbs up to 75 percent of the sound that strikes it; Minatone over 85 percent.

For auditorium purposes, additional low frequency absorption must be provided. There is also a problem of minimizing sound reflection from the rear wall. In many cases both requirements can be satisfied by installing four inches of mineral wool on the rear wall and facing it with a material like ¼" perforated hardboard, heavy gauge perforated corrugated aluminum, or perforated plywood. If more low frequency absorption is required, the upper side walls can also be treated in the same manner.

In a gymnasium, the durable semi-resilient composition of Cushiontone or Minatone will withstand the impact of bouncing basketballs, volleyballs, and indoor baseballs. However, it is important that the acoustical tiles on ceilings or walls be rigidly supported by a sturdy backing, regardless of the structural design of the building.

Against a wood deck, Cushiontone and Minatone should be nailed or screwed in place.

With a suspended ceiling, tiles should be backed



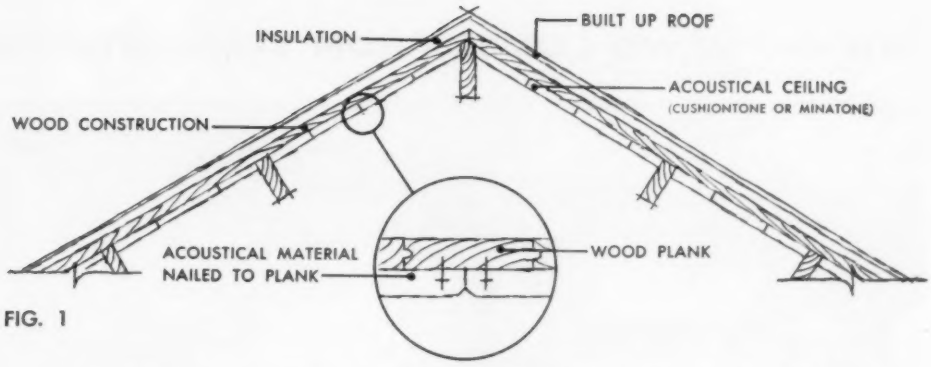


FIG. 1

With gabled roof construction, acoustical ceiling tiles should be nailed or screwed in place against a wood plank deck for maximum protection against impact.

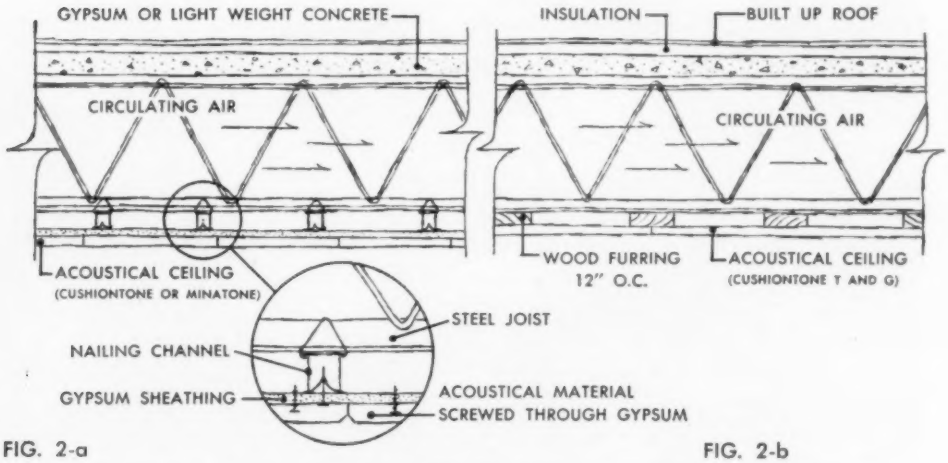


FIG. 2-a FIG. 2-b

When plans call for a suspended acoustical ceiling, (A) tiles can be backed by a material like ½" gypsum sheathing to provide a firm, over-all support for each tile. For maximum protection against impact, tiles should be screwed in place with the screws protruding at least ⅛" through the sheathing. (B) Or, Armstrong Cushiontone T&G, in 24" x 24" x 1" size, can be nailed or screwed to wood furring strips spaced 12" on center. In this construction, 1" Cushiontone with a tongue-and-groove joint provides adequate impact resistance.

an all-purpose gymnasium

by ½" gypsum sheathing, then screwed in place with screws long enough to protrude through the sheathing by about ⅛". This assures firm construction and prevents tiles from breaking under impact.

A popular alternate specification is Armstrong Cushiontone T&G, in 24" x 24" x 1" size, attached to wood furring strips spaced 12" on center. The 1" Cushiontone has adequate strength, and the interlocking tongue-and-groove joint detail supplies additional supporting strength for resistance to impact.

When codes call for an incombustible material, specify Minatone. Made of mineral fibers, it has a "Class A—Incombustible" rating and carries the Underwriters' label. When a Class C material can be specified, economical Cushiontone may be used. It is available with a slow-burning paint finish.

Your Armstrong Acoustical Contractor can give you complete information on the entire line of Armstrong Acoustical Ceilings. His name is listed in the Yellow Pages of your telephone directory.

For your free booklet on the latest sound-conditioning materials and methods, write to Armstrong Cork Company, 4208 Rock Street, Lancaster, Penna.

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CAMPUS ARCHITECTURE

ARCHITECTURAL RECORD AUGUST 1957

DESIGN IS DESIRED UNDER THE ELMS

ONE ROSE STILL FAILS to make a summer. The spasmodic blooming of well-designed campus buildings falls far short of the design leadership for which we would naturally look to the colleges and universities had we not learned long ago that in these matters ignorance, ineptitude and indifference are rank amidst the ivy. Campus architecture is a melancholy prospect. In the face of enrollments which will double in a decade the continued building of *phonial Colonial*, *tragic Gothic*, and that misbegotten, modern product of incompetent compromise: *neo-Cretin*, insures the imminent flowering of full-grown malignancies in hundreds of our communities.

It is a sad story of wasted opportunities. Opportunities to serve students, impressionable because they are socially unsure, intellectually curious, and generally eager to accept whatever has the approval of an authority presumed to be sophisticated. The campus is a matrix in which appreciations are formed. Witness the tastes with which trustees return to their campuses. Today's student is tomorrow's trustee, but he is tomorrow's business, professional, and community leader as well. On the typical American campus he is not being afforded the early, positive experiences and impressions which could inform and refine that awareness of meaning in planning and design out of which he must make essential decisions affecting his business and his community.

But the campuses are wasting even more direct and immediate opportunities to serve the community. They could and should be living laboratories for experiment in planning and design. Their acreage is large and the authority over its use almost uniquely single. Because the campus is becoming increasingly a community in microcosm — with most of its building types and most of its planning problems — every lesson that can be learned there has direct value for the community. There are so few places where a reluctant councilman or company president can see and feel the effects of good planning. Full size campus demonstrations could be powerful persuaders for effective action in our choking towns and in the industrial parks and shopping centers that are ringing them. Instead of museums of fruitless mistakes our campuses could become full scale experiments in building design and technique where, when mistakes *are* made they are made at least in the bold cause of inquiry; in the invigorating search for knowledge which presumably is still education's purpose. Has not the university that asks (or takes in taxes) the support of its community the obligation to return *full* dividends to the donors? Is it inaccurate to observe that they do not and impertinent to suggest that failure is in a leadership short on care and courage? The trustee who may vote good design at the meeting of his company board too often wears a different hat at his college building-committee meetings. The college president who keenly appreciates the issues and nuances in his own field is all too ready to disallow that there are any of consequence in the field of design. In this he is his institution's poorest advertisement. He defers to alumni and trustees when he should lead them. He defers to his superintendent of buildings and grounds. And he can always find a host of architects willing to share in his program of caution and callow indecision. Experts in the righteous double-talk of economy and tradition.

Tragically they will not be found out until they have spoiled some of our best existing and prospective campuses. This will happen despite such examples as are on the following pages. These are neither completely nor uniformly rewarding, but they have all been undertaken by thoughtful men of talent who believe that colleges and universities should build in the spirit in which they teach. ***John Knox Shear***

ONE BILLION A YEAR ON THE 1965 CAMPUS

THOMAS CARLYLE once wrote that "the true University of these days is a Collection of Books." This 19th-century epigram could conceivably become a 20th-century reality, judging from the inexorable movement of the statisticians' trend lines. If we don't expand our facilities on a large scale and in a hurry, we could find ourselves in an era where many a university will have books — and students — and no space.

In quantitative terms, the impending demand for college education, and thus for college facilities, is nothing short of staggering. Census Bureau projections indicate that the number of people in the college-age brackets (18–24 years) is going to climb by nearly two thirds between now and 1970. This isn't just speculation; these youngsters are all alive today, and their numbers are known. It only remains to calculate the effects of mortality and immigration, which do not offer large elements of possible error. We can be sure that the Census age projections won't be far off.

Projecting the college-age population isn't quite the same thing as projecting college enrollment, because higher education is not compulsory. The proportion of potential students who actually show up before the registrars depends on many things, including the general level of prosperity, government and school policies, changing social customs, and so on. But it is certain that actual enrollments will rise substantially. Population increase is just one factor; among other trends which should at least offset the declining stimulus of the G. I. program are (a) increasing emphasis on longer training and more advanced degrees; and (b) generally higher living standards which will make it possible for more people to go to college. The U. S. Office of Education estimates that enrollments will nearly double by 1970.

The pressure for new college facilities won't be the same in all parts of the nation. The Census Bureau has tried to calculate the effects of interstate migration on the college-age population of every state. This is by no means an easy forecasting job, and there is much room for error. But the inevitable conclusion is that the pressure will be much more intense in some places than in others. The West Coast and the Mountain States are in for the largest percentage increases; but there will also be greater-than-average growth in some eastern states — notably Florida, Maryland, Delaware, Ohio, Indiana, New Jersey, Connecticut, and Virginia.

Our college and university facilities are already overburdened, even though today's students come largely from the relatively small baby crops of the Depression. The upsurge in the college-age brackets, however, is beginning right now.

And facilities are being expanded now. Latest government figures show that colleges and universities spent at least $540 million for plant expansion in 1955; officials think the 1957 total may be about 20 percent higher. It wouldn't be at all unreasonable to find outlays for buildings at well over a billion dollars a year by 1965, when the enrollment squeeze becomes most pronounced. If the pattern of building established in the first half of the current decade holds for the future, close to half of this will go for "instructional buildings" — including classrooms, libraries, athletic buildings, and teaching hospitals. Another quarter or so will be spent on residential buildings of all types, and the remainder will be for research facilities and general service buildings.

Consideration of these quantitative factors is only a part of the story. Providing a high quality of education to all those ready and willing to undertake it will challenge educators to use imagination, innovation, and courage. A goodly share of this challenge will eventually fall in the laps of the architects and engineers who design the physical facilities. ***George Cline Smith, Vice President and Economist, F. W. Dodge Corporation***

THE UNIVERSITY OF ST. THOMAS, HOUSTON

WESTERN CULTURE is traditionally urban. A broad liberal arts training demands an acquaintance with and some relish for music, the theater and the graphic arts. The larger universities create their own urban atmosphere; smaller ones draw upon the facilities of their city. St. Thomas is located so that all of the cultural centers are a short ride away. Most of them are within walking distance.

We are a co-educational liberal arts college with a present enrollment of 325. This figure is expected to grow to 1,000 in 10 years; ultimately to 1,500. Few students own automobiles; the majority use public transportation.

The completed buildings (see plan, right page) will provide classrooms, laboratories, cafeteria, and assembly facilities for 1,500 students on an area about 300 by 900 ft. There will be dormitories for 160 women and a faculty residence for 50. Library, administration, and men's residences can be on nearby properties — as can the future gymnasium and playing field, since no intercollegiate football is contemplated. The total campus will comprise 15 or 20 acres. ***The Reverend V. J. Guinan, C.S.B., President of St. Thomas University.***

■ ■ ■

The design of the modern college campus is, I believe, turning away from the "group building in the park" approach and back to a more formal and more connected building group — the medieval, or 18th century approach rather than the 19th. The concept underlying Eero Saarinen's Concordia College is an example.

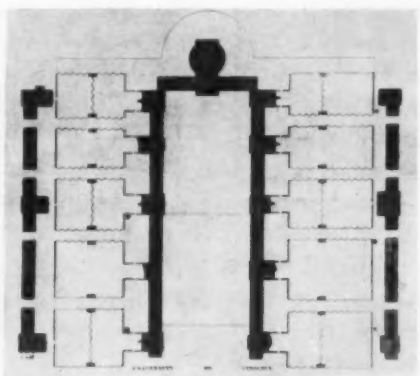
St. Thomas is a more formal design in which there will be a cloister built within and against a cityscape. All of the buildings will face to the pedestrian walk, and the campus proper forms more of a "green street" than a typical American campus. The sense of community that such an enclosure gives a campus seems to be much the same sense of cohesion that a cloister gives a monastery.

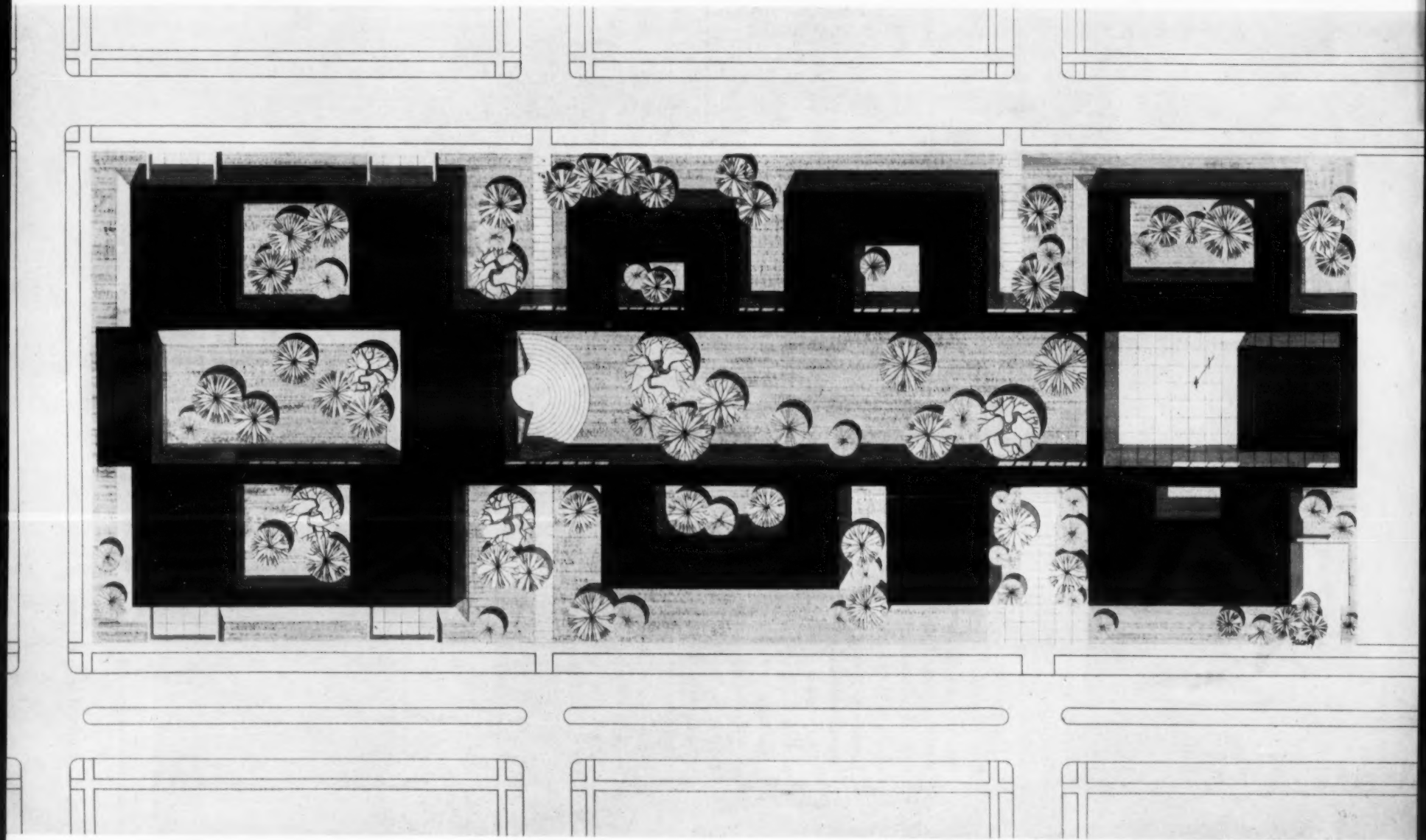
One architectural advantage of the closed-walk plan is that the design of the campus consists of the enclosure as such, to which various buildings can front. If later buildings do not conform in size to the preconceived plan, they can nevertheless be fitted with ease into the modular sequence of the covered walk. An important design feature is the chapel, which — by its height and position — dominates the entire court. Symmetry once more becomes, as in Jefferson's plan, the principle of order. ***Philip Johnson, Architect*** (see also pages 142, 143).

Architect Johnson further notes, "My plan for St. Thomas is a more formal example than Concordia. There is a cloister walk connecting every building, and the arrangement is more to be compared with Jefferson's University of Virginia, which I very consciously used as a model. But even Jefferson was too open in his plan, with the "U" on the crown of the hill dominating the sweeping view to the south."

At right, Jefferson's original plan for the University of Virginia, in which the domed library becomes the focus for the entire campus.

Johnson's plan for St. Thomas, right page, places chapel and amphitheater as closures at opposite ends of the central landscaped mall.





THE CLASSROOM CAN EVOKE INSPIRATION

MOST UNIVERSITY CLASSROOMS contribute little beyond physical facility; they usually comprise four walls, rows of chairs with note-taking arms, and a blackboard. They become merely a place for lecture or discussion. Perhaps some classrooms take on this plain, utilitarian aspect because there is no need — in the case of purely factual courses — for more than the most formal relationship between teacher and student. Or perhaps the primary consideration is economical space use. Yet, there is surely the need for the classroom to become a place of inspiration and stimulation; a place where a mood can be evoked to supplement and strengthen the material taught there. It is to implement this principle that a new kind of classroom has been devised for Brandeis.

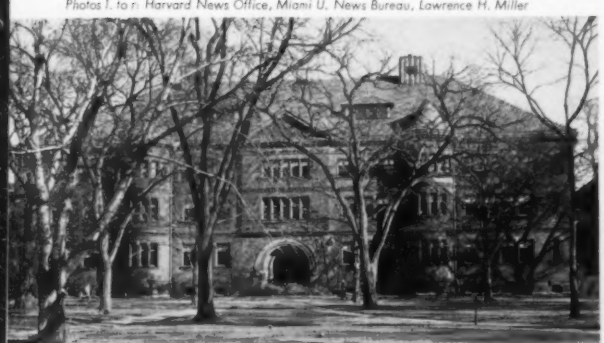
The humanities center at Brandeis is planned to provide ten or twelve spacious halls in each of which a long, trustee-type table will be substituted for the more conventional classroom benches or chairs. Around the walls there will be attractive exhibition cases for the documentation of eras and areas being studied. There will be halls devoted to the literary heritage of ancient Greece and Rome; to the moral genius of the Hebrews; the cultural treasures of the English, Americans, French, Spanish, Germans, and Italians. There will be a hall for those philosophies which have immeasurably enriched the humanist tradition.

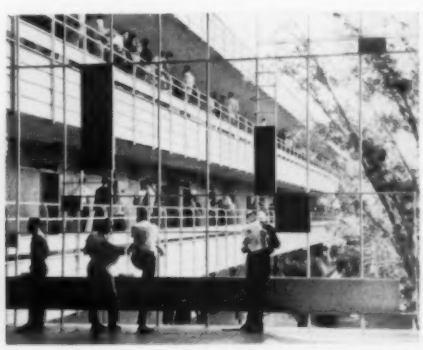
In the same area there will also be an American Civilization Center where similar environments are planned for the great American figures and periods.

Lectures and discussions will retain their scholarly integrity, but students will be receiving their instruction almost literally in the climate of the periods and institutions under study. The documentation can be changed from month to month or augmented through borrowed exhibits. The point is that inspiration is added to instruction; and documentation, manuscripts and rare books are no longer hoarded in sterile, seldom-visited archives.

The concept has endless potentialities for teaching, for influence upon students beyond formal course content, and for campus visitors. Even as a chapel is enriched for spiritual inspiration, so should the classroom for the humanities, for history, or for other social sciences be creatively housed in order that the evocations of mood can combine with the incandescence of imaginative teaching to bring inspiration.
Dr. Abram L. Sachar, President of Brandeis University.

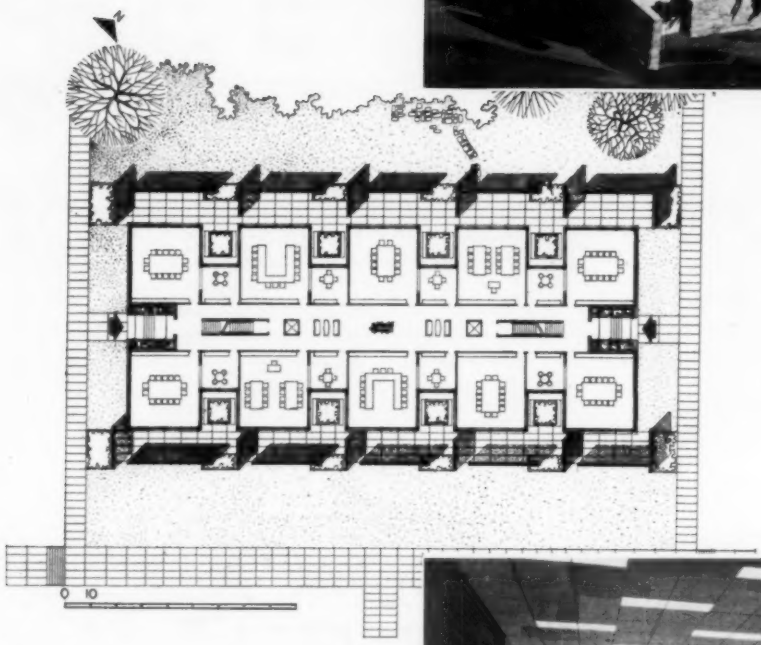
Photos l. to r: Harvard News Office, Miami U. News Bureau, Lawrence H. Miller





Left to right: Sever Hall, Harvard University, Cambridge, 1880, by Henry Hobson Richardson; Memorial Classroom Building, University of Miami, 1947, Coral Gables, 1947, by Robert Law Weed and Marion I. Manley



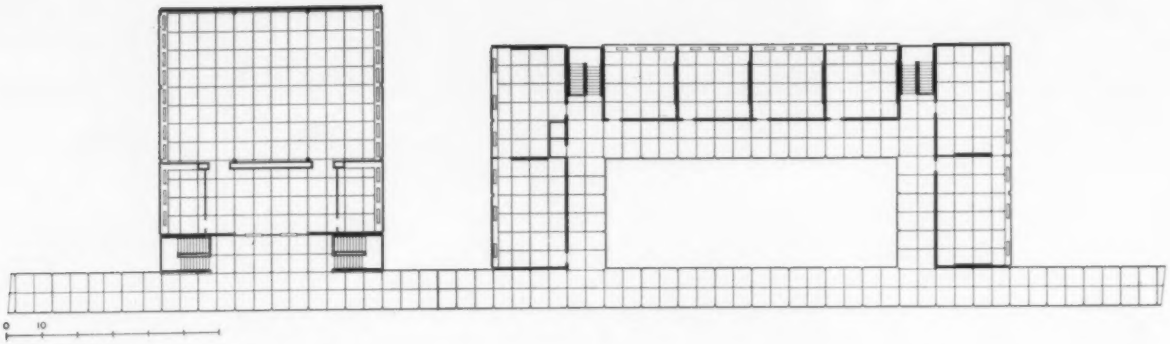




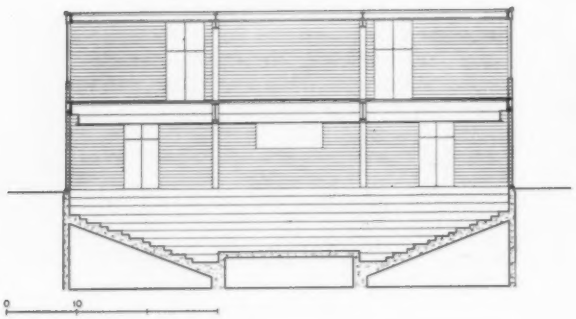
CLASSROOMS: DESIGNED TO CREATE AN ATMOSPHERE

THE SCHIFFMAN Humanities Center for Brandeis University, Waltham, Mass., will house classrooms at ground floor level; faculty offices, two large seminar rooms and washrooms on the second floor.

The unusual design of the classrooms (or seminar rooms) stems from the ideas of University president Sachar (see text at left). The tables can be arranged in various ways — as the plan shows — and folding doors can be opened or closed for further flexibility of space, as needed. Cases for exhibits, documents, and memorabilia will line one wall of each area; the smaller space — which opens to a garden — can be either closed off for private study, or used as a conference room, or made into a small museum dedicated to the period or figure or culture to which the room will be permanently devoted. ***Architects: Harrison & Abramovitz***

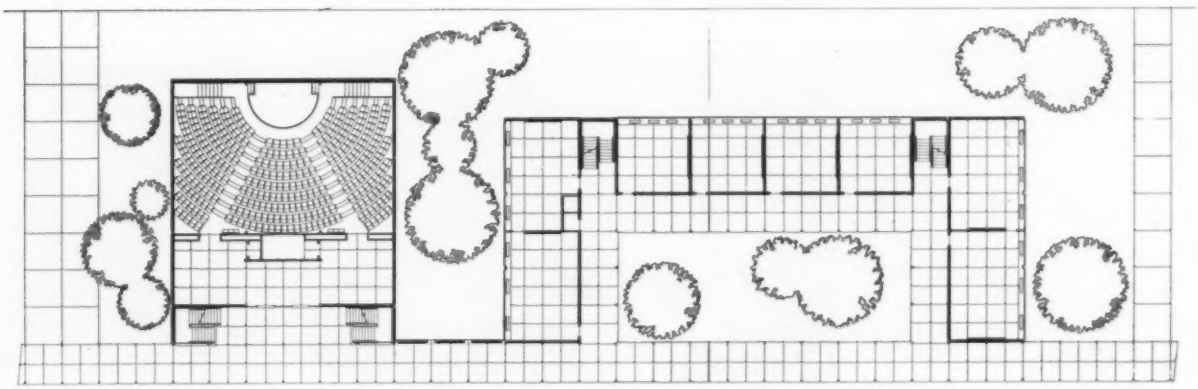


Second Floor

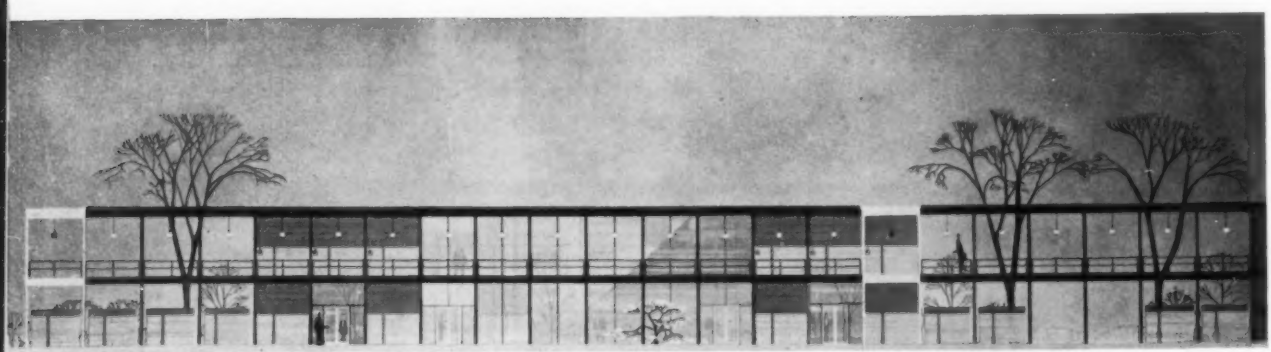


Section

The concrete walkways connecting all the buildings will have a pebbled surface and natural redwood divider strips. Interior floors throughout will consist of white terrazzo with white bronze divider strips. All interior ceilings will be finished with acoustic tile, except for the fine arts gallery above the assembly hall. Typical classrooms will have white chalkboards of toothy porcelain enamel on steel; the same material will be used for a large panel in the assembly hall for either projection or writing

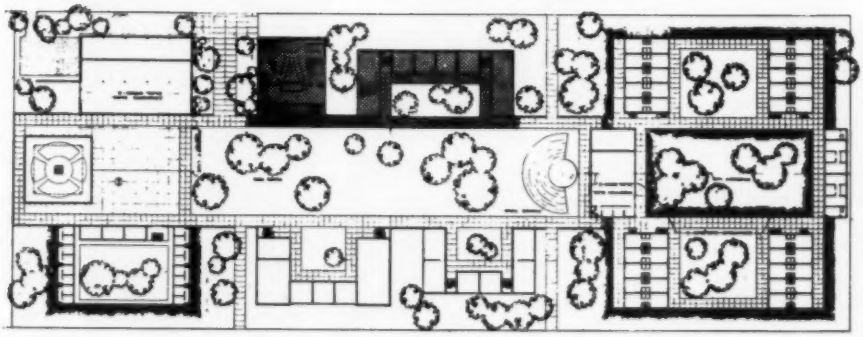


Ground Floor



Elevation to show the general character of the buildings as they face the central mall





CLASSROOMS: ELEMENTS FROM A WHOLE CAMPUS FABRIC

FOR ST. THOMAS University in Houston, the first phase of the construction program will consist of erecting the classroom building and the adjacent assembly-fine arts structure. They will be built within the 10′6″ modular pattern that will give the entire campus unity, scale, and flexibility. The plans and section of these units are shown at left; their location indicated in the plan above.

The 350-seat assembly hall is disposed in the fashion of a medical amphitheater with entrance at ground level, and will be centrally air-conditioned.

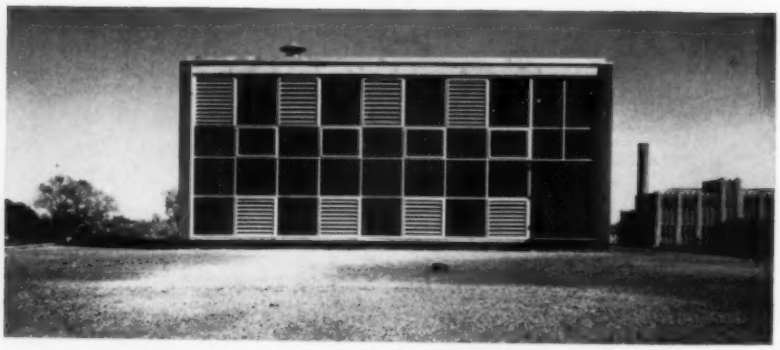
The exposed structural steel will be painted charcoal gray both inside and out; the infilling panels will consist of a speckled tawny-pink brick laid up in English cross bond. ***Architect: Philip Johnson Associates. Supervising Architects: Bolton and Barnstone.***



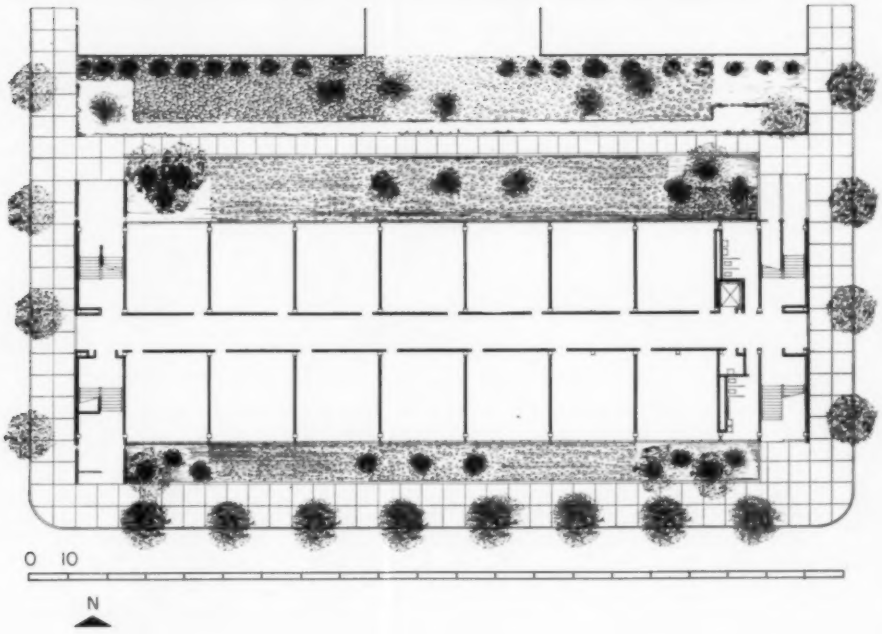




Cortland V. D. Hubbard







CLASSROOMS: FOR THE UNIVERSITY IN A LARGE CITY

THE NEW GENERAL classroom building for Temple University, Philadelphia — Curtis Hall — is in an area characterized by heavy traffic, dense population and excessive land cost. A building to house 50 classrooms for 2,000 students under an 8 A.M. to 10 P.M. schedule 12 months a year had to be built on a plot 100 by 200, and could not rise higher than four stories! These problems were met by a compact, air-conditioned structure with a tan-gray brick and aluminum exterior which features combination sunshade and window-washing platforms made of aluminum subway grating. The necessary mechanical equipment was placed in a penthouse (left) which is fully isolated acoustically. ***Architects: Nolen & Swinburne; Consultants: Structural, Allabach & Rennis; Mechanical, A. Ernest D'Ambly; Acoustical: H. V. Munchausen; Landscape Architect: George Patton.***

GOLDEN GATE THEOLOGICAL SEMINARY

AFTER A LONG SEARCH we have been led to a site which appears to meet all our needs, which is naturally beautiful, and which has a most inspiring outlook. We are confident that the sound approach to planning demonstrated by Mr. Warnecke and his associates will result in the creation of a place of genuine beauty and a landmark that will become an inspiration to the area.

Each of our seminaries has become a valued and respected part of its community, bringing from one to two million a year purchasing power into those communities. From our reception to date we feel that a similar relationship will be established here. Certainly we shall do everything possible to bring it about. We hope to become welcome and worthy members of this growing community of Marin County where, only a few miles from the Golden Gate, we will endeavor to carry on the fine tradition which has become associated with that name. We want the general public to enjoy it with us. Musical and dramatic events — both indoors and out — will be an important part of our program, and we hope the public will participate. ***Harold K. Graves, President, Golden Gate Baptist Theological Seminary.***

■ ■ ■

Respect for the existing terrain is a basic premise of the plan. Buildings are deliberately conceived and located to harmonize with and complement the hillsides, valleys and ridges of the site. Landscaping is keyed to the native environment and only in the heart of the seminary will greater formality be developed.

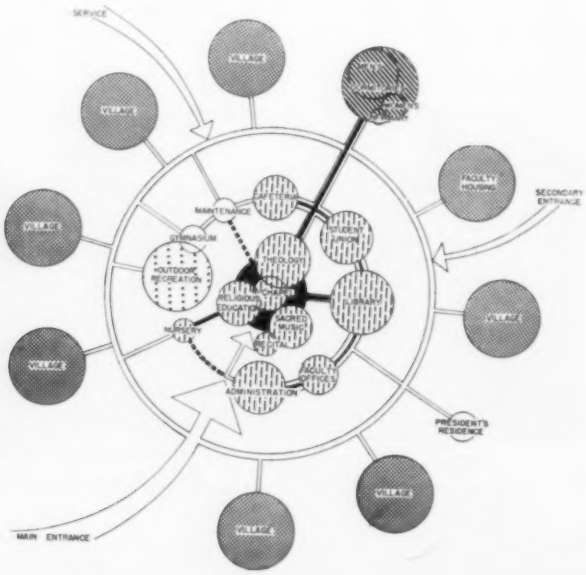
Residence halls are distributed along existing contours so the building axes do not conflict with natural slopes. Also, present valleys and folds are deliberately used to achieve separation and isolation for each residential village.

Careful program analysis led to a functional diagram (see below) indicating the relationships of various academic, religious, administrative, and residential components. The site model photograph shows building relationships.

The heart of the seminary is placed on a high knoll, where a central mall — flanked by classrooms and administration building — leads from library to chapel; an adjoining recital hall completes this group. Residence halls are on an adjacent rise, with student union and cafeteria units leading to the linking element, a pedestrian bridge surmounting an access driveway at lower level. ***John Carl Warnecke, Architect*** (See also pages 150, 151).

Randal Partridge







A PROGRAM FOR THE NEW COLLEGE CHAPEL

IT IS NECESSARY to go far beyond the concept of a typical church building when it comes to the writing of a program for a campus chapel. For while the campus chapel should minister to the college community in the ordinary sense of the word, it should also be the symbolic expression of the rediscovered compatibility between the humanities and theology. Ever since the Church was expelled from the dominant position she held in the University before the Renaissance, she has been tempted to stand aloof from secular investigations of the Natural Order. However, in the last 75 years this tendency has been so completely reversed that in some quarters a humanistic Christianity and Judaism has developed that is more secular than religious in nature.

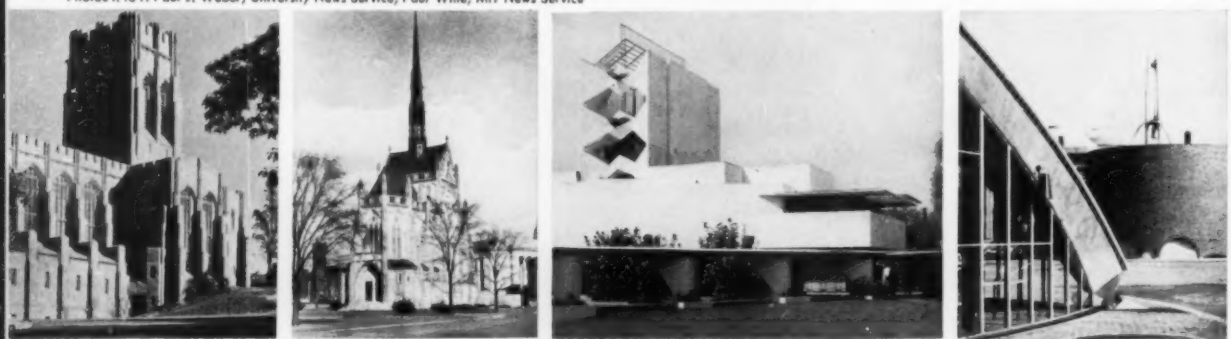
Architecture has participated fully in these extremes. Archeological Traditionalism has often made the campus chapel a self-conscious museum; while uninformed modernity has tended to reduce it to either a lecture hall or a "meditation corner." On the campus today students are chiefly occupied with the study of man, his works and his world. God should be wholeheartedly welcomed into such an enterprise by way of the chapel on the campus.

In architectural terms, what does this mean? It means that the mysterious greatness of God permeates the building but does not completely overwhelm it. It means that nature is admitted, but only as a disciplined worshipper used purposefully to enhance the glory of God rather than as rampant and uninterested decoration for its own sake. It means that the symbol of God's presence — be it pulpit, altar or ark — must be the real focus of attention, where study as well as prayer and praise can be offered to God.

Although designed primarily for worship and preaching, the campus chapel should also provide for their chief by-products; pastoral counseling, free discussion and dedicated fellowship — but it should not try to compete with the student union or college gymnasium in these functions.

To be faced with and to have explained the nature and purpose of Almighty God in an atmosphere sympathetic to the problems, curiosity, and greatness of man is to bring the humanities and divinities together in God's service. This should be a basic program for the campus chapel. ***The Very Reverend Darby Wood Betts, Dean of the Cathedral of St. John, Providence.***

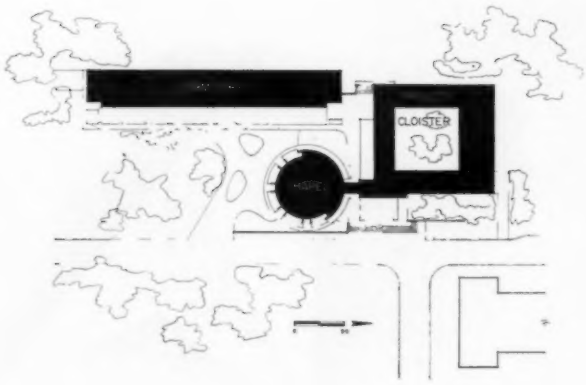
Photos l. to r: Paul J. Weber; University News Service; Paul Wille; MIT News Service

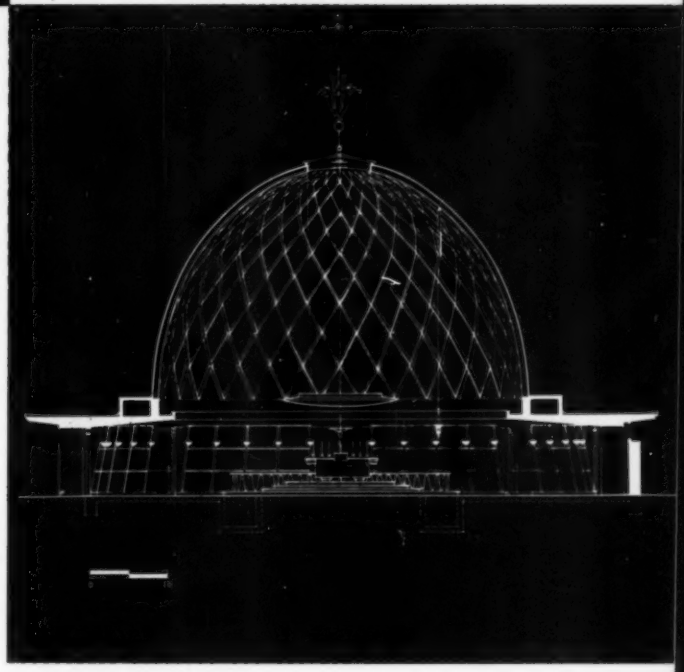


Left to right: Chapel, U. S. Military Academy, 1908, by Cram & Ferguson; Heinz Memorial Chapel, University of Pittsburgh, 1938, by Charles Z. Klauder; The Annie Pfeiffer Chapel, Florida Southern College, Lakeland, 1941, by Frank Lloyd Wright; Chapel, Massachusetts Institute of Technology, 1955, by Eero Saarinen & Associates



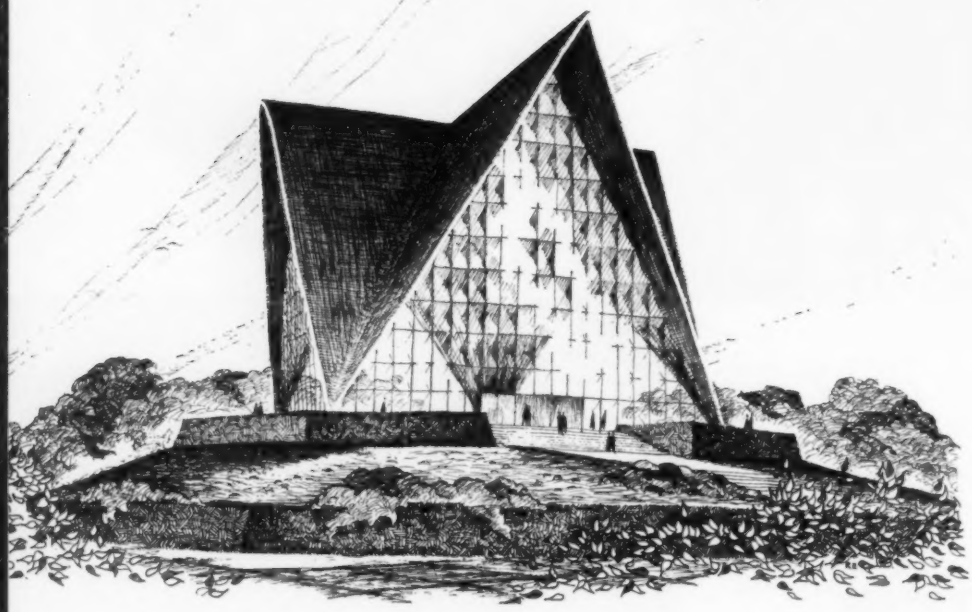


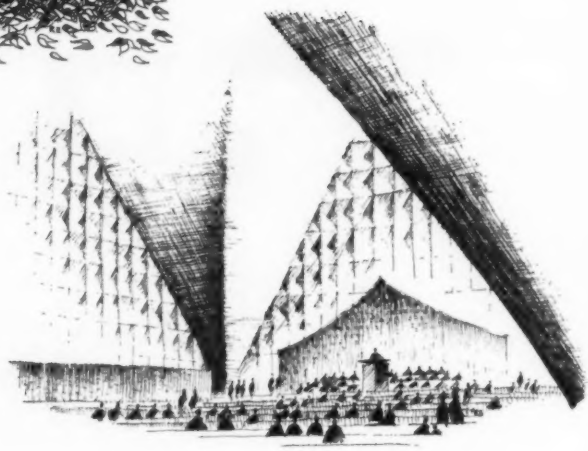


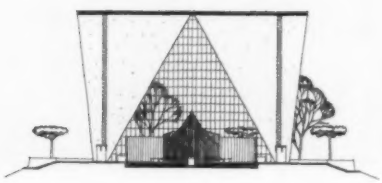


CHAPELS: CIRCULAR SEATING FOR SPIRITUAL UNITY

FOR CHAMINADE COLLEGE near St. Louis, a Catholic boys' school, the architects have created an unusual chapel, soon to be built, which will become the visual focus for the entire campus. Architect Murphy says, "The circular form, to accommodate 160, seemed logical and attractive. With the altar centered and no one more than four rows away, the scheme seemed to lend itself to the unity of spirit desired. The lamella wood structure of walnut, pierced at the top by a skylight and variously with several points of brightly colored glass, will make a rich interior. From inside, one will see the lawns and trees; from outside, a glimpse of the altar should be inspiring." ***Architects: Murphy & Mackey. Consultants: Structural, Neal Campbell; Lamella roof, G. R. Kiewitt; Mechanical, Ferris & Hamig; Acoustical, Bolt, Beranek & Newman. Sculpture: Hillis Arnold.***

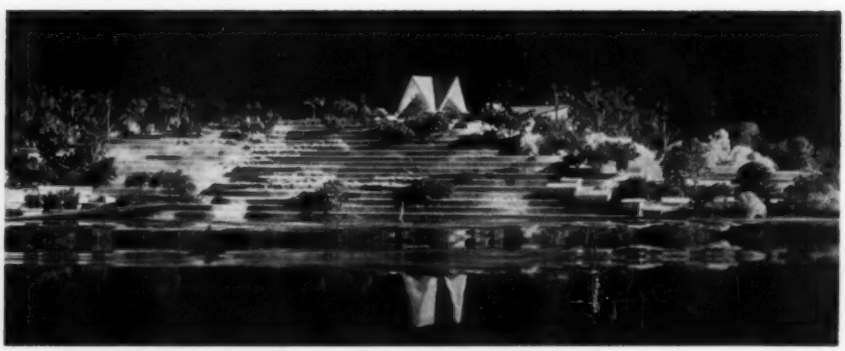






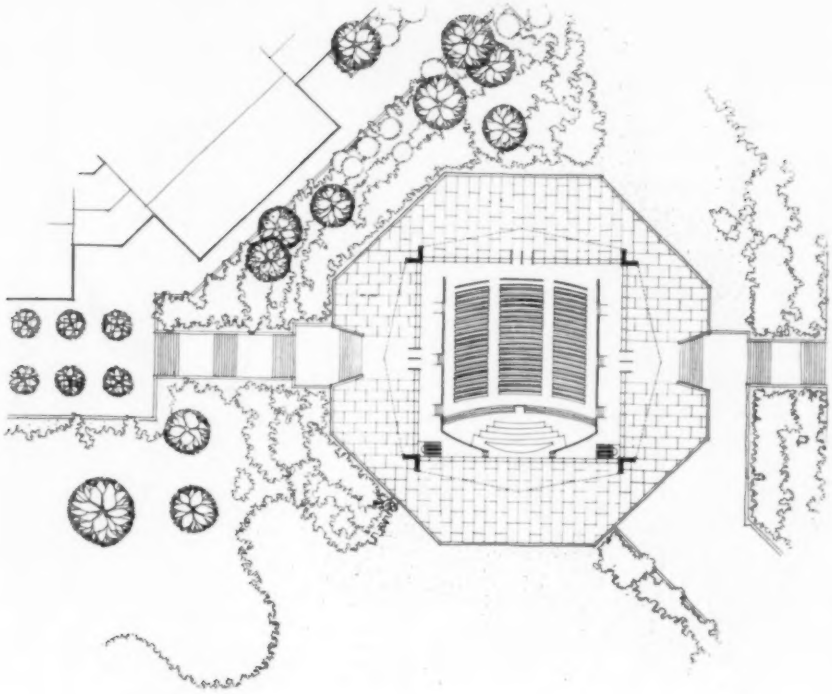
Randal Partridge





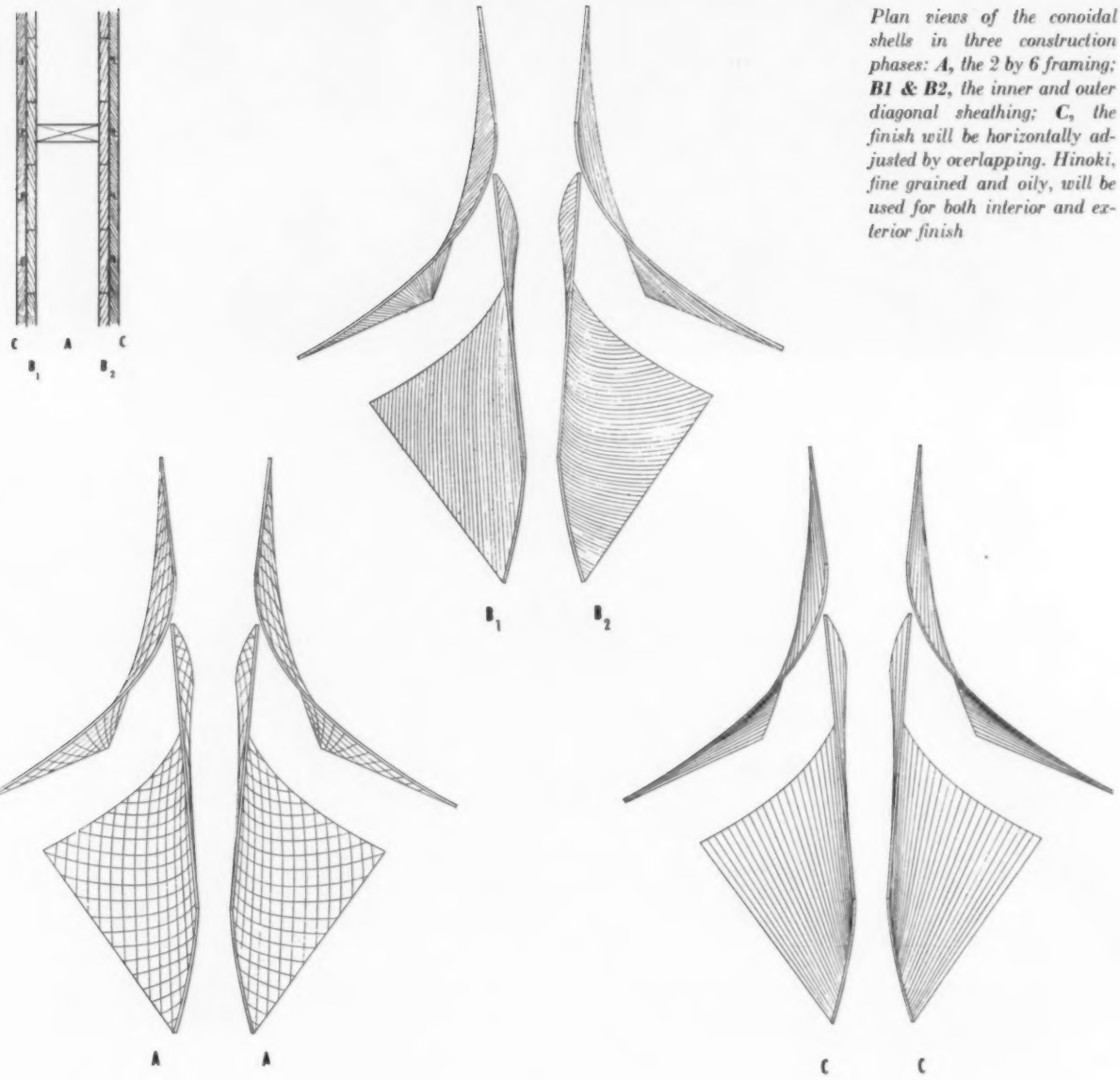
Photo, left, shows actual rise upon which the chapel will be located, as in the model at right



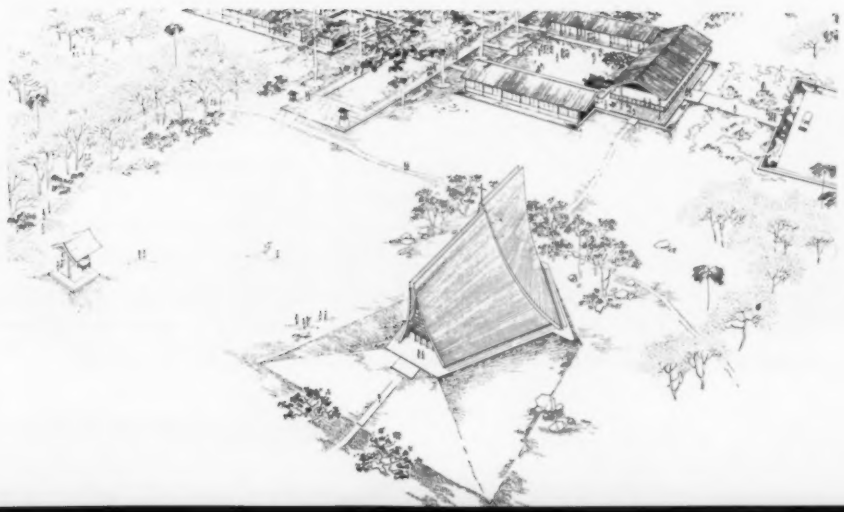


CHAPELS: GREAT, GLITTERING MOSAICS OF LIGHT

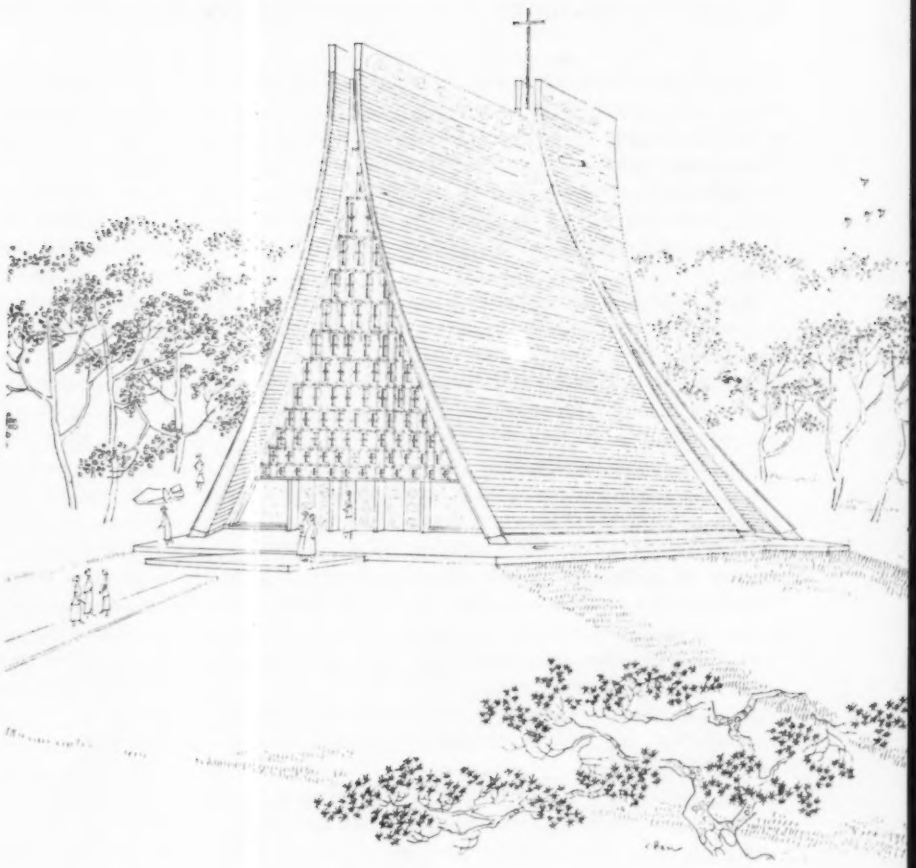
OF HIS CHAPEL DESIGN for the Golden Gate Baptist Theological Seminary (see also pp 146 & 147 for campus plan) Architect Warnecke notes, "This is the single exception to the idea of natural land configuration influencing building shapes. The highest hill was chosen for the chapel; and it culminates the progression of form upwards to a climax in the soaring roof-vaults. Each building side is a great triangular window 100 ft high, infilling the reinforced concrete vault. Planes of colored glass in over-all pattern and a trusswork of either metal or masonry will fill the openings. Problems of wind, sun, weather, etc. will influence the final design for the windows." ***Architect: John Carl Warnecke; Planning Consultant: Lawrence Livingston, Jr.; Landscape Architect: Lawrence Halprin; Structural Engineer: John Blume; Mechanical & Electrical Engineer: G. M. Simonson.***



Plan views of the conoidal shells in three construction phases: ***A****, the 2 by 6 framing;* ***B1 & B2****, the inner and outer diagonal sheathing;* ***C****, the finish will be horizontally adjusted by overlapping. Hinoki, fine grained and oily, will be used for both interior and exterior finish*







CHAPELS: THE SHAPE AND LIGHT OF INSPIRING SPACE

TUNGHAI UNIVERSITY, Formosa, will soon have as its architectural dominant a new 500-seat chapel. The graceful curves of the building's shells — conoidal in shape — will rise 72 ft over the sloping site. The conoids, anchored along their bases, will be connected at top and sides only by glass and slender ties. Within, the beautifully formed spaces will soar upward with increasing surge from the dark, red-brick floor to burst skyward through the brilliance of the longitudinal skystrip. The shells are to be clad both sides in Hinoki; edged with copper; the end-wall screen will be glass and wood. The chapel promises the spiritual uplift a religious building demands within an envelope peculiarly Oriental and delicately serene in character. ***Architect: Ieoh Ming Pei; Associates: Chi Kwan Chen and Chao-Kang Chang; Structural Engineer: Georgio Baroni of Roberts and Schaefer.***

COLLEGE ARCHITECTURE: AN EXPRESSION OF EDUCATIONAL PHILOSOPHY

By **ALBERT BUSH-BROWN**, *Assistant Professor, Architectural History, Massachusetts Institute of Technology*

SURELY AMONG THE PROBLEMS confronting the United States today none is more important than that of developing a higher form of civic life, one capable of sustaining our cultural arts while embracing the wealth of an urbanized, commercial and industrial world. For more than three hundred years, the American public has supported educational institutions devoted to that end.

Now, an understanding of the function of architecture in education is especially required; when in the next years, our colleges expand and rebuild, it is important that college properties and buildings become instruments of college education and, consequently, of improved civic life.

It seems unbelievable that colleges should so often fail to clarify the educational program to be met by a building, while insisting upon matters of style, which presumably lie outside the competence of the educators. A firm of architects recently hired to design a large library for an eastern university could not begin any planning until two years of interviews with the faculty and administration determined what the educational objectives of the library were to be. Yet that same university, so uncertain about the functioning of a library, insisted that the style of architecture should unquestionably be Gothic!

The public, including college administrators and trustees, has much to learn about architecture. Some, unfortunately, have bought the idea that modern design is cheaper than traditional architecture. That is sometimes true, but it neglects the facts that great architecture is never cheap and that economy usually comes through curtailing performance.

Nearly all colleges have at one time or another adopted the notion that architectural harmony within a campus will result from making buildings conform in style, forgetting that a garden has many plants. But no one glancing at the new pseudo-Georgian buildings at the Harvard Business School or the pueblo-Gothic Firestone Library at Princeton will entertain for a moment longer the belief that conformity in style brings neighborliness. What matters far more are siting, scale, rhythm, balance.

But these are professional matters for architects, not educators, who too often are ready to sacrifice convenience, performance and a chance to do something splendid before giving up alumni and donor sentiments about style.

Did he only know it, the educator-client's proper role is to define educational purpose and insist that he obtain a building conforming to it. In this he will find most architects entirely sympathetic, for recent architects, particularly those who, like Louis Sullivan and Frank Lloyd Wright, have held an environmentalist point of view derived from nineteenth-century thinking about evolution,[1] have generally believed that architecture itself, as the most important part of environment, can be an effective instrument of education. Louis Sullivan, for instance, wrote that we "can never make of our pupils good citizens" so long as we "continue to cram . . . [our] confiding pupils full of trashy notions concerning the Classic and Gothic and utterly ignore . . . [our] own land and people."[2]

Except for Sullivan's intense nationalism and modernism, his belief in the educational effectiveness of architecture has been shared by many American architects who represent diverse points of view both in architecture and in education. Thus, the Gothic Revival architect, Ralph Adams Cram once wrote ". . . I believe that art . . . as a system of spiritual and psychological influence is perhaps the greatest teaching agency . . ."[3] At the dedication of the Greek Revival building, Girard College, at Philadelphia, one orator said, "The adoption of the grandeur and beauty of an ancient architecture for this building must be considered with regard to their influences on the mind and character of the pupils . . ."[4] And Walter Gropius, too, though his style of architecture and beliefs about education are quite different from those of the other three, conceives that architecture is educational: "How can we expect our students to become bold and fearless in thought and action if we encase them in sentimental shrines feigning a culture which has long since disappeared?"[5]

Behind the statements about the moral and intellectual role of architecture lies the conviction, which has been held by many great architects since Ruskin and the

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[1] *Donald Egbert, "The Idea of Organic Expression and American Architecture," Evolutionary Thought In America, edited by Stow Persons, Yale University Press, New Haven, 1950, pp. 336 ff.*

[2] *Louis Sullivan,* Kindergarten Chats, *Scarab Fraternity Press, 1934, p. 169.*

[3] *Ralph Adams Cram,* The Gothic Quest, *New York, Baker and Taylor Co., 1907, p. 217.*

[4] *Joseph R. Chandler, "Address Delivered on the Occasion of the Placing of the Crowning Stone, August 29, 1846." Final Report of the Building Committee of the Girard College for Orphans, ed., John C. Davis, Philadelphia, L. R. Bailey, 1848, p. 74.*

[5] *Walter Gropius, "Tradition and the Graduate Center"* Harvard Alumni Bulletin *October 14, 1950, p. 68.*

romantic writers of the Continent,[6] that architectural plans, having been generated in the context of certain social, moral, religious and philosophical ideas, must express those cultural origins. Some understanding of that expression in the history of college architecture may help modern architects and educators.

New College, Oxford, finished in 1400, before Romantic theories about the educational function of college architecture were created, may nevertheless be considered as expressing a specific philosophy in education. Its chapel, in the perpendicular style of Gothic architecture that had been developed only fifty years previously in English cathedrals, is placed prominently in the plan. The location of the chapel and the fact that its interior movable partitions, which allowed the hall to serve also as a place for secular assembly, screened a sacred altar from profanation, indicate that the college was founded and supported by the church, that theology was the major study and that the university day was punctuated by required attendance at the chapel services. Like the monastic prototypes of English colleges, the plan of New College, which includes a dining hall, a library, residences and gardens, comprises a self-sufficient community that was walled off defensively against a town which often grew hostile to the gown, as during the Civil Wars in England. A new educational ideal expressed itself in a different, new architectural plan and style: Renaissance humanism developed — not in mediaeval Italian universities like that at Bologna — in private villas, such as that of the de Medici in Florence, or, later, in newly-built academies. A building near Vicenza, which was designed in the first quarter of the sixteenth century by the humanist scholar, Giorgio Trissino, was the academy in which Trissino's protégé, the great architect, Palladio, received part of his education. Trissino modeled his literary criticism and style upon Aristotle and Cicero and, for his academy, he joined two earlier towers by a block of classical design that was derived from Serlio's publication of Roman architecture. His educational program was also inspired by classical models, by the prototype of all academies, that of Plato in ancient Athens.

For the students in Trissino's geometrically designed academy there was the new Renaissance goal for education: the development of the *uomo universale*, the man, especially the civic leader, who was fitted by a humanistic education to remodel his world. He was not trained in one particular mediaeval profession such as theology or law, nor was he taught to justify everything by reference to Scripture or scholastic exegesis. Humanism offered in the classics and in a Platonic conception of nature a new standard of philosophical and social criticism, encouraged a more admiring estimate of the physical world.

Furthermore, humanism suggested a new ideal manner for realizing or understanding that world; in painting, in 1425, an ideal, geometric system of perspective was developed that approximates visual experience and is precisely delineated; ideal canons of human proportions were established and although they were arbitrary, formal rules, Alberti, for one, believed they corresponded with reality; architectural design through geometry and anatomy, was given absolute standards for determining scale, proportion and shape. In all phases of thought classical humanism revealed a knowledge of nature as ordered by rational principles that conformed to experience more generally than the symbolizing, particularized paintings and catalogues of mediaeval Aristotelian and Christian fidelity.

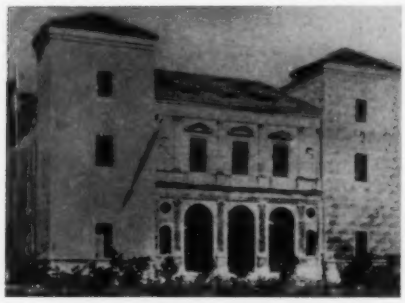
Plato's psychology was accepted and along with it his theory of education as written in *The Republic:* the Body was to be disciplined by Renaissance arts, such as horsemanship; the Emotions nurtured by music, poetry and oratory; the Will was to be strengthened by the complete discipline required in the residential life; and Reason, at the top of Plato's hierarchy, was to be sharpened by the study of logic and geometry and, especially, the geometric discipline of formal architectural design. For this humanist program of active intellectual and physical life the meditative cloisters, the liturgically-oriented chapel and the "barbarous" Gothic style, multiform and unruled, as Vasari thought, were quite unsuited. Only as material became mastered by geometry and logic, became rationally ordered, was architecture able to express, as it had with the Ancients, Reason's ideal control over matter.[7] Physical perfection in the pure circle or exact cube was then perceived as being moral perfection; for in Renaissance Formalism,

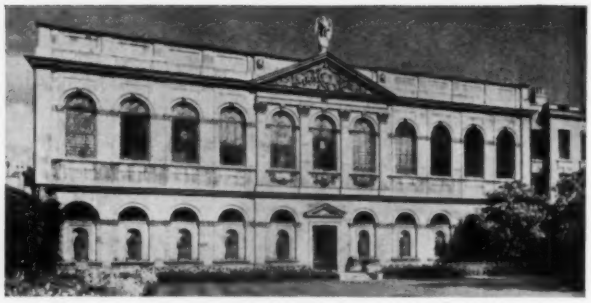
[6] *John Ruskin*, The Seven Lamps of Architecture, *New York, Longmans, 1905, IV, parag. 43.*

[7] *Rudolf Wittkower*, Architectural Principles in the Age of Humanism, *London*, The Warburg Institute, 1949, pp 89 ff.



The University of Virginia campus, Thomas Jefferson, architect, an "academical village," with library as focus





Left: Palladio studied here. Right: Sir Christopher Wren's library, Queens College, Oxford, 1694

education and architecture were mutually harmonious in their antique origins, their values and their apotheosis of abstract, universal reason.

New types of residential plan and a less classical style originated with the creation of Dissenting Academies and small colleges at Oxford. Worcester College is typical of those new utilitarian buildings of about 1700 which small, less wealthy colleges were erecting. Everything is in one hall; the multiple entry system, as in our early Colonial designs, is retained; the central portion is devoted to residences; in one wing there is a chapel; in the other, classrooms.

It was this type of single, compact building, derived ultimately from the Italian Renaissance, that came to America at Harvard, Yale and Princeton in the eighteenth century. In the last decade of the seventeenth century, the original building at William and Mary, the so-called "Wren" building, took this form. Its Renaissance style, like that of the building at Worcester College, was no longer classical in reference; Vitruvius had been absorbed. New authorities were replacing Plato also: Bacon's science replaced Aristotle; Newton's physics replaced the Greek; Locke's account of society left no foundation for Plato's state, just as his philosophy of empiricism restricts if not eliminates, ancient metaphysics. Education and its texts, like architectural style, became Anglicized.

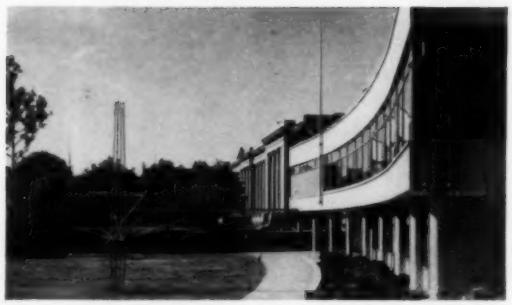
While they were economical and compact, the single large buildings such as Nassau Hall at Princeton, had obvious disadvantages; their long corridors provided ample space for riotous gatherings. The usually elegent Thomas Jefferson, who knew the William and Mary dormitory in his own student days, called such buildings, "dens of filth, noise, and fetid air." [8] When he designed the University of Virginia, therefore, Jefferson made an arrangement of many small, separate buildings and connected them by porticoes, probably inspired by the ancient Roman villa plan that had been taken up by French chateaux and their dependencies, as at Marly. The plan, accepted in 1819, formed an "academical village" which ensured privacy and quiet, formed a community, isolated disease, and lessened the dangers of fire. At the head of the lawn, between the dormitories and faculty pavilions, the library, not the European church, was the focus of the plan; for it was Jefferson's contention that education, like government, should not be ruined by those ecclesiastical controls detrimental to intellectual freedom, as he had witnessed both in this country and in the Jesuitical teaching in Europe. The liberal arts courses, especially the study of Greek and Roman history, were designed to strengthen students against despotism both in its political and religious forms.

The architectural style of the University of Virginia set the classical educational goal into material form. Several of the pavilions were derived from ancient Roman monuments, and the library, in which one-fifth of the books had classical titles, was a reproduction of half-scale of the Pantheon in Rome. These ancient temples were intended to provide examples of great architectural refinement in the architectural lectures; for with humanism, architecture was considered a necessary part of a gentleman's training.

Other secular forms of romantic thinking in the twentieth century, especially nationalistic emphasis upon our own American tradition, garbed the residential, liberal arts education in a Colonial style, as at Harvard and Dartmouth. And before the First World War the Beaux-Arts, Academic style, inherited through France from Rome, with columns, domes and great staircases, threatened to become our national university style at Columbia, Harvard and the University of California. Often a version of the Beaux-Arts style was used for institutions that specialized in one branch of learning, such as engineering; for a school of engineering such as the Massachusetts Institute of Technology was based ultimately upon the Roman origins of the "art of genius" and French institutions in the eighteenth century that continued the Roman technical competence.

About 1925, still, we were using historical styles to express the origins and nature of our cultural and educational beliefs. But in Germany both education and architecture had made a conscious attempt to seek new methods and forms. For instance, Walter Gropius' *Bauhaus*, framed in steel and glass in mechanistic style, taught architects and artists by practical work with machinery, by the study of science and geometry, and by manual work with materials; the educational methods and goals had a nonhistorical basis and the liberal arts, including history, were almost totally neglected.

[8] *Quoted in Karl Lehmann,* Thomas Jefferson, American Humanist, *New York, The Macmillan Company, 1947, p. 185.*



Walter R. Fleischer

Graduate Center, Harvard, by The Architects Collaborative

"Teaching methods of approach to problems . . . , rather than giving them too many fixed results will broaden the student's vision and make him independent and mature." [9] The requirements of an industrial society established the practical problems and set the educational goals.

When, after 1935, the European industrial architects emigrated to America, they found many supporters; for the point of view about education and architecture, in which modern industry, mechanism and utilitarianism are praised, was still popular in the United States. We first met that point of view at the Johns Hopkins, and it flourished at many great American universities in the twentieth century, including Harvard University. Many Americans visited the same Swiss schools of Pestalozzi and Fellenburg from which the German educators, Froebel and ultimately Gropius, got their ideas. The early work of Horace Mann and Henry Barnard has been developed in this country by many in the twentieth century who, like John Dewey, are "Progressive" educators; this native group received the modern European progressive architects and educators enthusiastically when, before the Second World War, they emigrated to the United States. Richard Neutra built a famous school in California that was designed for the new education, and it was in the European version of modern architecture. Yet America was not without its own kind of progressive architects and educators.

The foremost exponent of a type of "Progressivism" in American education was the pragmatist philosopher John Dewey. His work in adapting the subject-matter and teaching methods of traditional education to a student's individual abilities and concerns (by manual work, art, re-creation of history through dramatics) was conceived to develop greater emotional balance and self-reliance in a student. Dewey's educational philosophy, though progressive, is quite different from that of Gropius. It has been characteristic of Deweyan educational methods, as opposed to the more mechanistic forms of "Progressivism," such as Gropius', to retain the liberal arts, particularly history, language and literature, in order to encourage imagination, to humanize originally by bringing the refinements of history to it, and, through group creation, to develop the social and communicative activities of a student in relation to the work of his classmates. Architecturally, such goals would encourage the creation of an architectural style that would include many of the principles, such as individuality, diversity, regard for natural beauty, and variety, which were characteristic of Cram's architecture — but now in a modern style.

Thus, by considering the architecture in conjunction with the educational programs at several schools, colleges and universities, it has been possible to show a few of the broad connections existing between architecture and education. Naturally many other factors not considered here influence college architecture: fashion, the whims of donors, technology, finances — all are influential. But the strong connections possible between architecture and education suggest the need for concern in this area.

Many new ideas need to be explored by educators firmly intent upon deciding issues on the basis of educational philosophy. Architects need the educator's answers to questions of many kinds. What happens when students live in residential colleges? What happens when they have inadequate dormitories? Are high standards of living valuable? Should libraries be departmentalized? Can students learn science better by lecture demonstrations or in laboratories?

These are questions to which architects need answers. The answers would help architects to design buildings offering greater performance. For architecture is educationally effective to the degree that it is in cultural harmony with the educational goals and methods of the institution.

[9] *Walter Gropius, "Essentials for Architectural Education," PM, iv, 5, March 1938, no page.*



Clarence Studio



Walter R. Fleischer

Left: Ralph Adams Cram's Graduate College at Princeton. Right: Eliot House, Harvard, more elegant than seems possible today

AN AFRICAN ENVIRONMENT MOLDS A CAMPUS

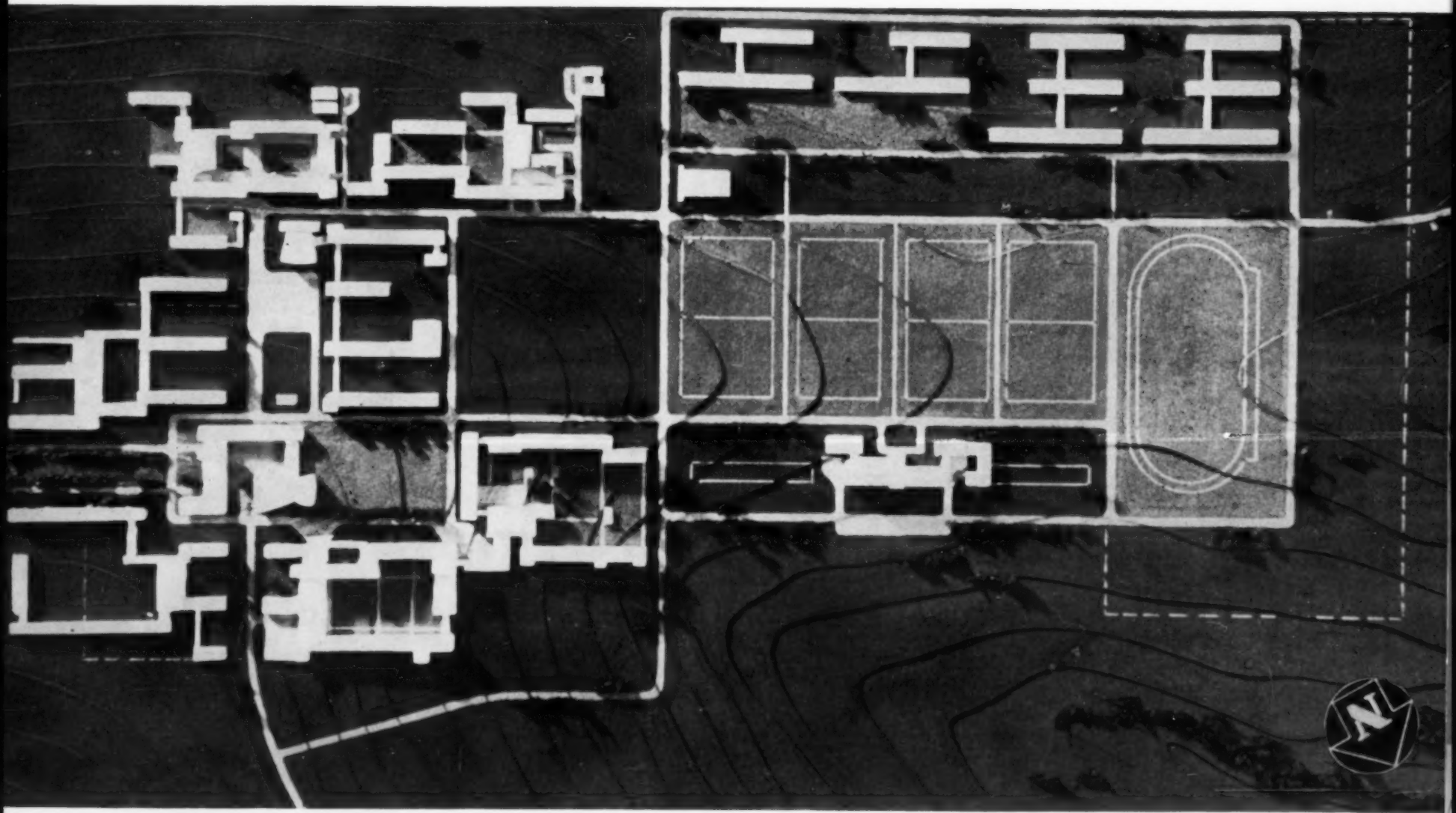
FOR THE FIRST West African University College at Ibadan in Nigeria a site covering five square miles of rolling land was chosen. The University is located on a portion selected for its accessibility to a main road and for its central saddle of land flat enough for playing fields. The plan is a concentrated one emphasizing minimum walking distances and the integral character of the residential colleges. The buildings, moreover, combine proximity with an east-west orientation that allows the prevailing southwest winds to penetrate the residential quadrangles.

The residential colleges and the teaching buildings are fairly closely grouped around the central administrative block (*lower right, opposite*), which is approached from the main road. In the block are the administration building and its attached bookshop, plus Trenchard Hall (*larger flared building*), an all-purpose assembly and social hall accommodating nearly 1,000. Near Trenchard a tower both counterweights the mass of the hall and serves as central symbol for the University. A succession of arts faculty buildings, connected by a covered way with many steps, is set on a southward sloping grade. At the low point is the Arts Theater (*smaller flared building*), which seats 300 and is equipped for lectures, plays, and films.

There are four residential colleges, located on the periphery of the administration-teaching area. Two future colleges are also indicated (*bottom*) on the site model. The present colleges house about 500 students — the planned expansion will double the number. The students live singly in study-bedrooms in blocks that give the impression of forming courtyards. Each college, with its dining halls, senior and junior common rooms, fellow's apartment, and porter's lodge forms a unified whole. This has proved to be a successful arrangement, promoting a decentralized form of discipline and guidance. Throughout the colleges a 10-foot module is used, but there is variety in the different kinds of cast concrete balcony fronts, which nearly everywhere face the breeze, and in the planning of the dining halls, common rooms, and apartments. The steeply falling land provides an additional esthetic dimension, the grand scale of which is accentuated by the long roof lines and many dropped terraces.

There are four one-story laboratories (*upper left*). The library (*upper right*) is presented on a following page. ***E. Maxwell Fry.***




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THE CAMPUS LIBRARY AND THE ARCHITECT

THE MAJOR PROBLEM in university library design is to find a competent architect who will really study the library business." This statement came from the librarian of a university that has recently completed a four-million-dollar building.

Why should a university library demand any more competence on the part of the architect than other college buildings? Certainly beyond the satisfying of psychological and space needs of demanding librarians, cranky professors, and book-shy students, lies the most important form problem of expressing the heart of an educational institution in such a way that the projected building forms will symbolize the university and inspire students for years to come.

Basic Concept. The architect first approaching the design of a campus library will discover a divergence of ideas among librarians, even though they may agree on major functions. Divergence results partly from individual attitudes and experiences, partly from basic concepts which vary with the nature of the institution: location; ownership; enrollment; curricular emphasis; nature of service.

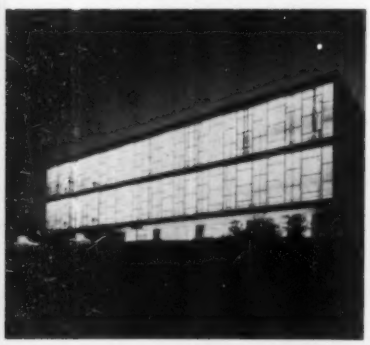
Bulk Storage and Expansion. No easy solution to this critical problem has yet been found. Microfilm has certain excellent uses within the library, but neither film, TV, nor electronic gadgets have changed radically the size and shape of books, shelves, and stacks as we know them.

Flexibility. Modular structure and the open plan have been freely adapted to library layout. Recently designed library plans resemble the supermarket with reading oases strategically placed. The rest of the library has invaded the stack areas; the "corridor" scheme of 1946 seems virtually obsolete. With uniform column spacing, ceiling heights, and mechanical treatment, flexibility is no longer a problem.

Readers in the Books. As a direct result of the new flexibility in plan, librarians have been quick to place readers and books in closer proximity and with greater comfort and intimacy than ever before; many have planned for two thirds of all seating within the stack area. Browsers become readers.

Expressive Form and Relationship to Campus Plan. Even today architects with demonstrated competence to design isolated buildings have been known to fail to produce building forms on campus which have the distinction and beauty symbolizing the library as the heart of the university's activities. ***Buford L. Pickens, Director of Campus Planning, Washington University, St. Louis***

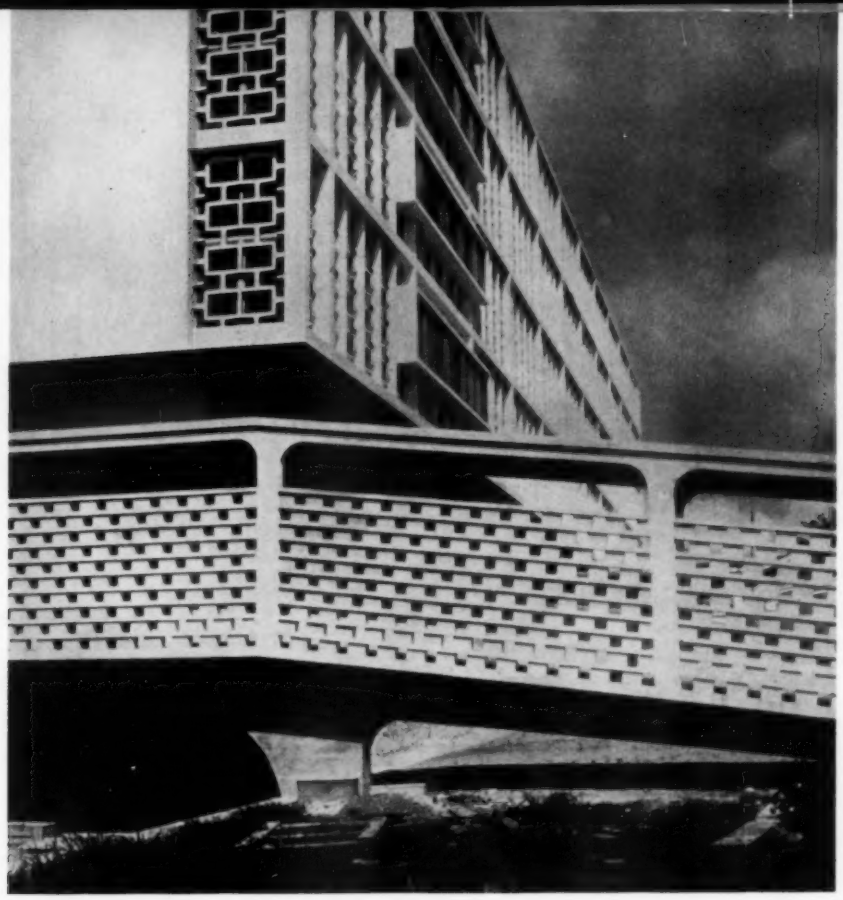
Photos l. to r: Joseph W. Molitor, Paul Wille

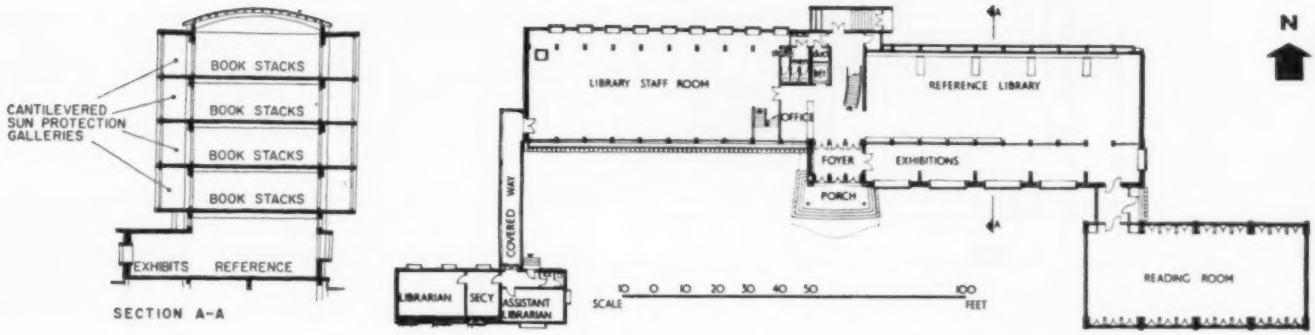






Left to right: Price Gilbert Library, Georgia Tech, Atlanta, 1953, by Bush-Brown, Gailey & Heffernan; E. T. Roux Library, Florida Southern College, Lakeland, 1954, by F. L. Wright







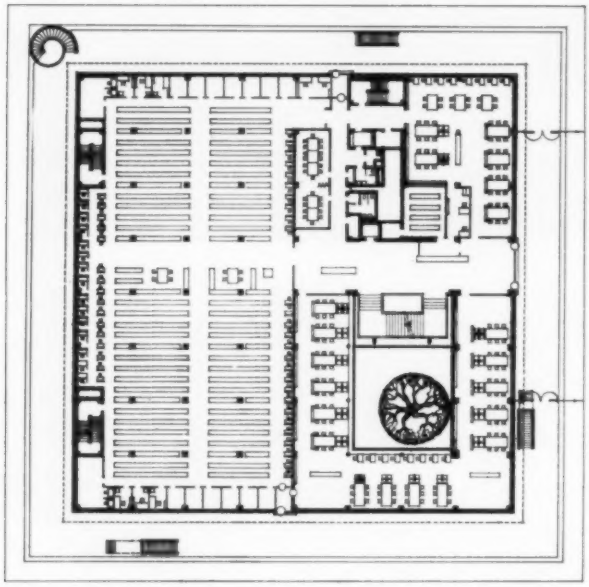
GRILLS SCREEN OPEN LIBRARY STACKS AT IBADAN

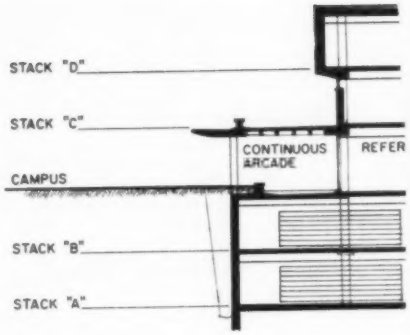
FROM THE OUTSET ventilation — for books and readers — was a prime determinant in the design of this library for the University College at Ibadan in Nigeria. An early plan to air condition was eventually discovered to be impractical in this place and time and led to the present scheme with its four upper floors of cross-ventilated book stacks. Protection for the stacks is afforded by deep cantilevered balconies and fly screening which covers the entire building faces just behind the cast concrete grills. Double doors at the end of each bookshelf aisle are kept closed during the rainy season, when drying through electric heating may be resorted to if necessary.

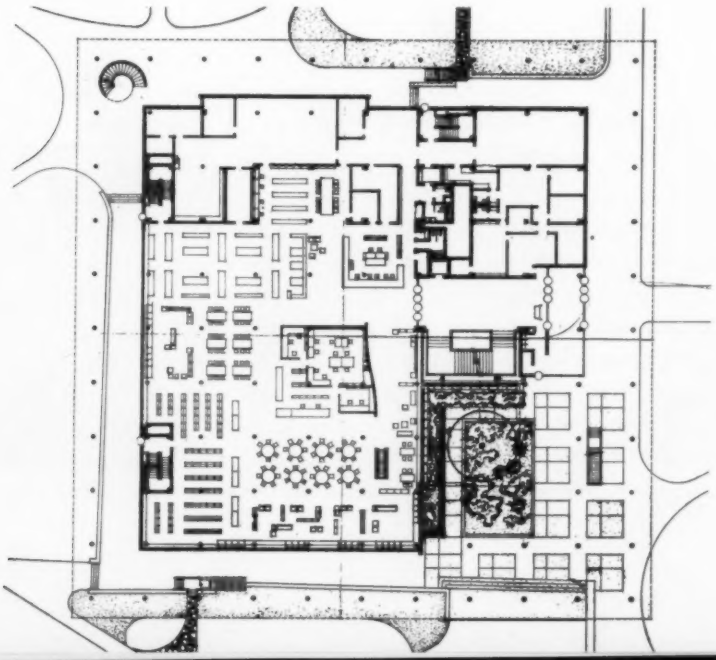
Out of the climatic problem and out of a ready, reasonably skilled labor force the grills develop logically and effectively as an important element in the character of this building. ***Architect: E. Maxwell Fry; Assistant Architect: G. S. Knight***

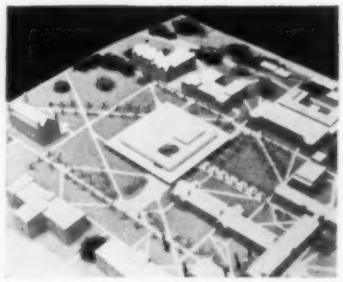

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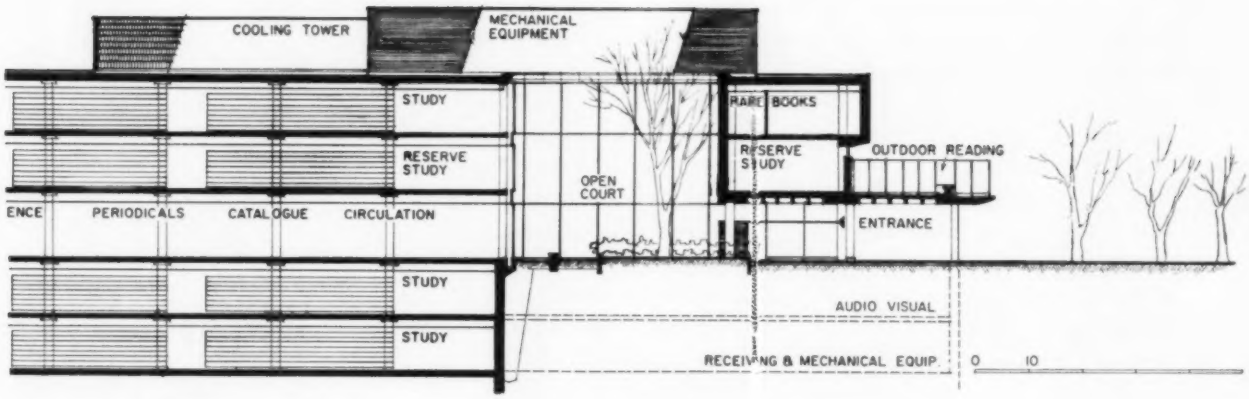



STACK "D"
STACK "C"
CONTINUOUS ARCADE
REFER
CAMPUS
STACK "B"
STACK "A"









SKILLFUL HARMONIES IN AN INTEGRATED BUILDING

WINNER IN A SIX-FIRM competition this design for the John M. Olin Library is under construction at Washington University in St. Louis. The program asked — and this building promises — an excellence derived from "the appropriateness with which it is related to its functions and its environment." Into the fine scale of a campus laid out by the Olmsteads and among original buildings by Cope and Stewardson this proposal should play a harmonizing and unifying role. Bulk has been reduced by placing two stack floors below ground. Under the open terrace an arcade surrounds the square building, shields the glass-walled main floor, collects adjacent campus walks, and brings students pleasantly and directly into the center of the library. ***Architects: Murphy and Mackey; Landscape Architect: Thomas Church; Engineers: Fred Dubin, Mechanical; Neal Campbell, Structural; Bolt, Beranek and Newman, Acoustical***

PRECISE RESPONSE TO URBAN CONDITIONS

TEMPLE UNIVERSITY is continuing the mandate of its founder, Russell Conwell, when it places the riches of a university education on the doorstep of a city and makes them readily and inexpensively available to everyone. However, like every other major urban university, Temple faces its greatest period of growth in the next fifteen years. Twenty thousand students will become forty thousand. As we push back the city for the space we must have, every square foot of ground we take over will cost somewhere between $6 and $10 a square foot.

Our great reservoir of students is the Greater Philadelphia area; our future is intimately tied to that city. Accordingly, from the very beginning we have coordinated our program with the Philadelphia City Planning Commission and the Redevelopment Authority.

After administration and faculty programming, we turned to a youthful and imaginative team of architects. They were told that we were not interested in buildings just as buildings, but as vehicles that help us further the educational process efficiently. More than that, the individual building together with its companions and the spaces and courts between them should offer an environment which will give to students and faculty an atmosphere of active participation rather than scholarly detachment. They were asked to study our students, our faculty, the patterns of our activities. They had to plan by the inch so thoroughly that each square foot of space, exterior and interior, is utilized to the maximum.

We consider the solution to the first phase of our development program outstanding. It is a vital expression of a complex series of requirements in the sciences, business, education, and communications. The solution in contemporary architecture we admire as fitting and proper for these buildings to be used in the 20th and 21st centuries. Most importantly, however, the solution recognizes *change*. The requirements of physical plant must be able to shift suddenly in order to satisfy the ever-changing requirements in education. We consider one of the most vital elements our architects have given us is the privilege of changing our mind — of shifting as we go along. The internal arrangements of the buildings in terms of a changing curriculum and the pattern of expansion in buildings are so fluid that we feel we can confidently meet the unknown future requirements of a university.
Robert L. Johnson, President, Temple University

Cortlandt V. D. Hubbard (also opposite page)



SCIENCE BUILDINGS KEY THE NEW CAMPUS

ACROSS THE COUNTRY in courses ranging from aeronautical engineering to zoology our colleges and universities are increasing study facilities in the sciences and their applications at a rate which far outruns any other of the established fields. Few need betatrons; all need bunsen burners and the work spaces in which to employ them. Highly specialized equipment and highly specialized spaces are required increasingly, but the proportion of these to standard spaces is small — just about the proportion of graduate and professional programs to undergraduate ones.

The real demand is for laboratory space and for immediately adjacent classrooms. Increasingly these are being coupled in administration, faculty, and architect thinking for two principal reasons. The first grows out of the desire to link up closely laboratory observational experience with immediate discussion — or pre-observation instruction. At St. John's College (*opposite*) the laboratories are organized to accommodate seminars in the middle of the work space. Elsewhere classroom and small lecture spaces are being located opposite laboratories on double-loaded corridors or alternately along single-loaded ones. The latter arrangement is particularly effective in achieving the second planning goal: flexibility.

Using modular planning — and often demountable partitions — a laboratory may be doubled in size over a weekend, or a classroom may become two, or either may be subdivided into several small project laboratories or offices or storage and preparation spaces. Of course to accomplish this desirable interchangeability it is mandatory that mechanical and electrical services be established in continuous patterns, and this is the order of the day. In the three examples that follow, such continuity is provided.

Equally important with the continuity of these services is that of fenestration, acoustical, and structural organization. It is only in our time that such flexibility in use or for expansion has become technically feasible, and it is only in our time that the need for it has developed to such a critical extent.

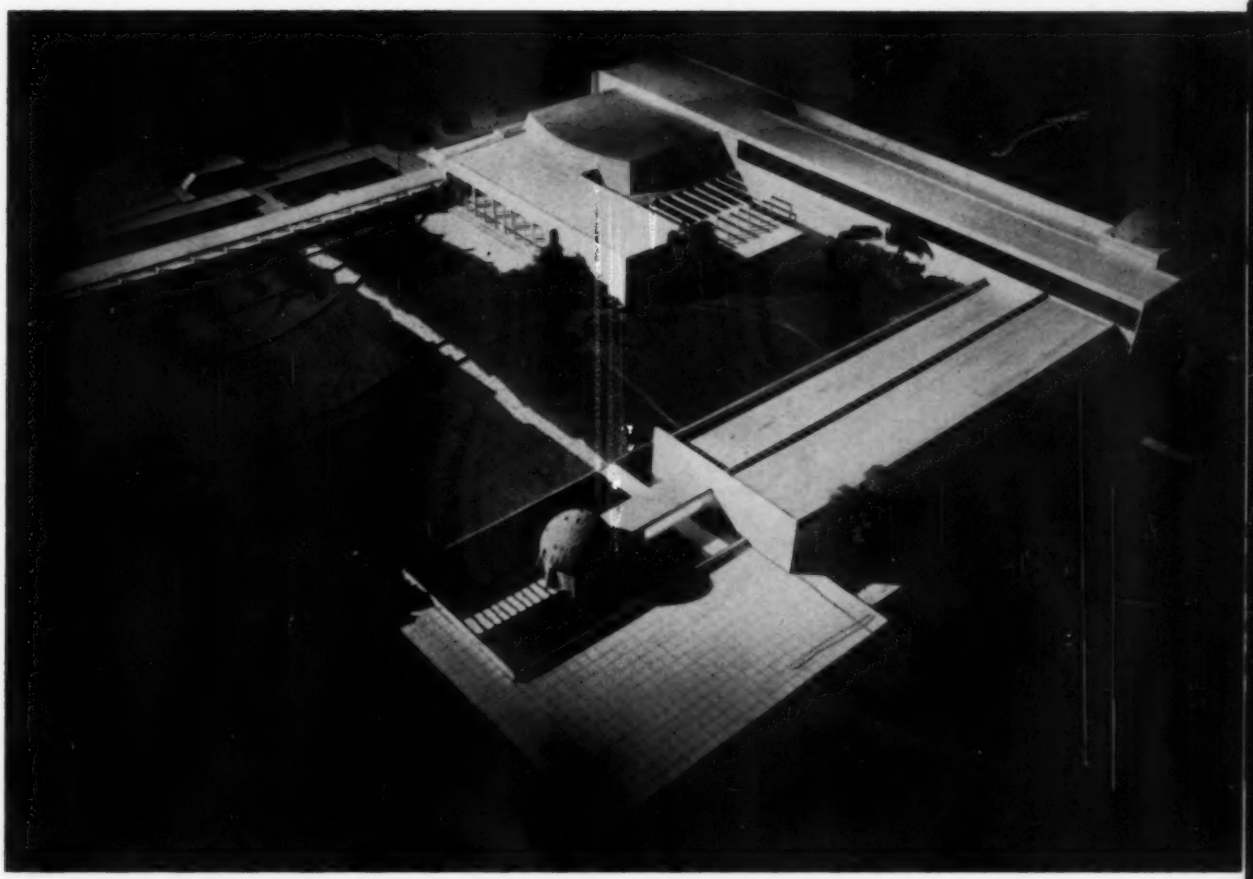
The satisfactory science building today must start with a structural pattern which can permit subsequent multiple choices and multiple additions. It cannot freeze spaces or combinations of them. And because of this it cannot possibly ape older campus styles with any measurable success, although some otherwise impeccable institutions are still trying. A thoughtful approach to the new science building may yet bring us thoughtful — and beautiful — campus architecture.

Lawrence H. Miller



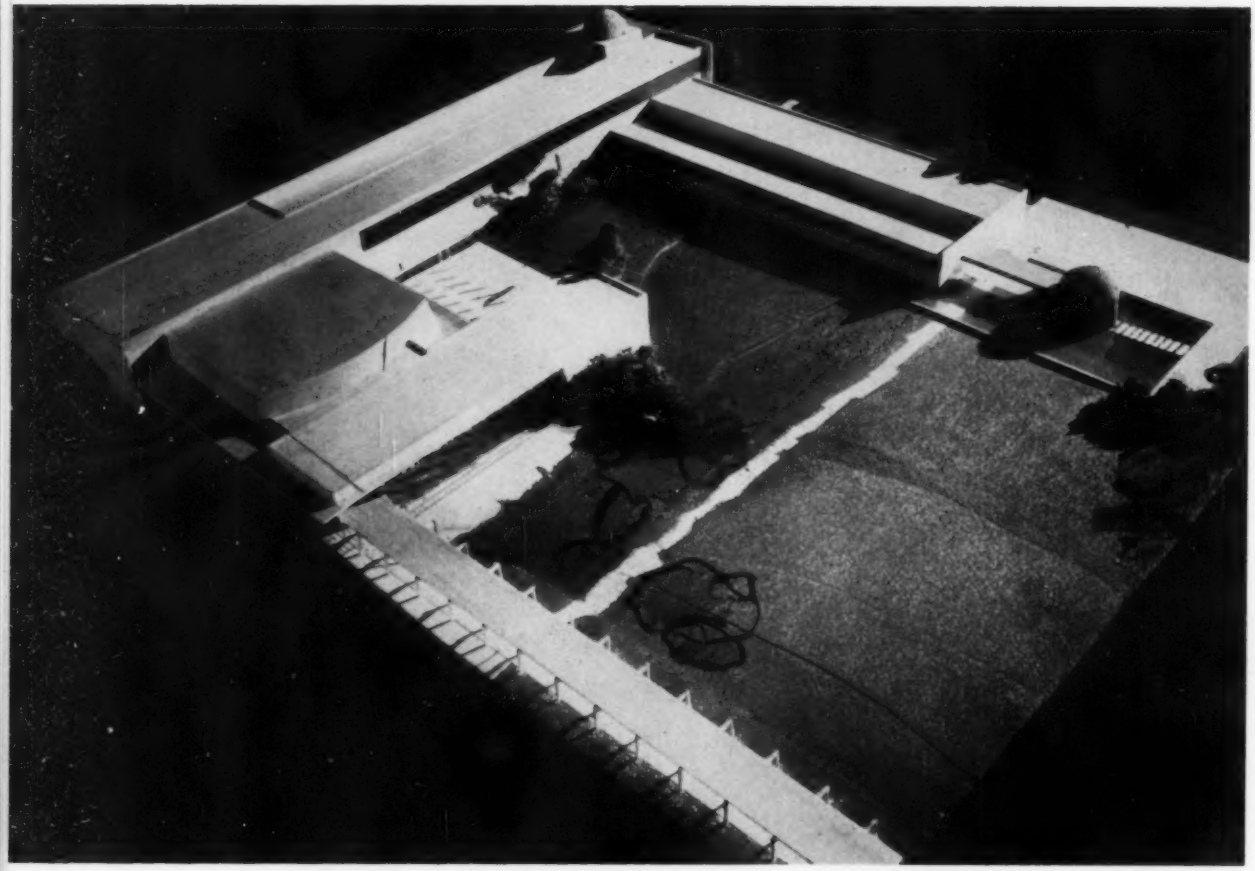


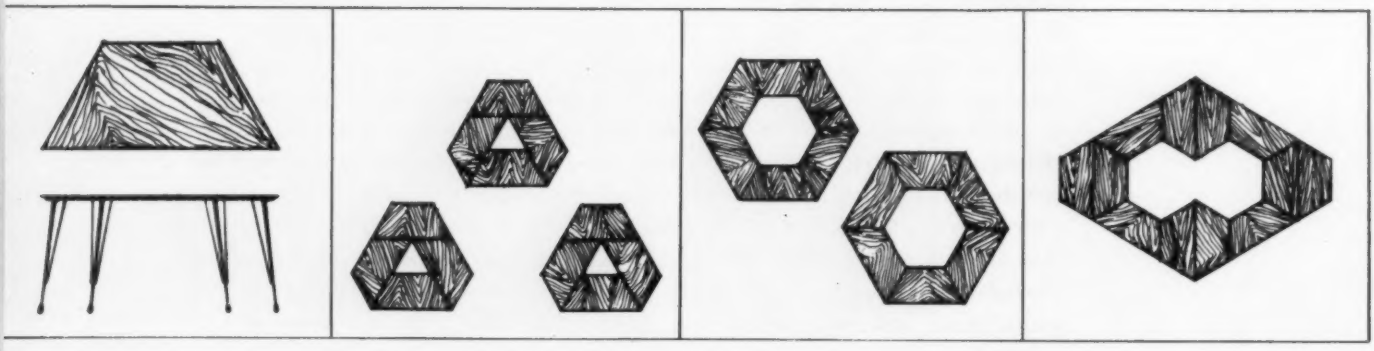
Left to right: Karl Taylor Compton Laboratories, Massachusetts Institute of Technology, Cambridge, 1957, by Anderson, Beckwith & Haible; Porter Hall, Carnegie Institute of Technology, Pittsburgh, 1905, by Henry Hornbostel

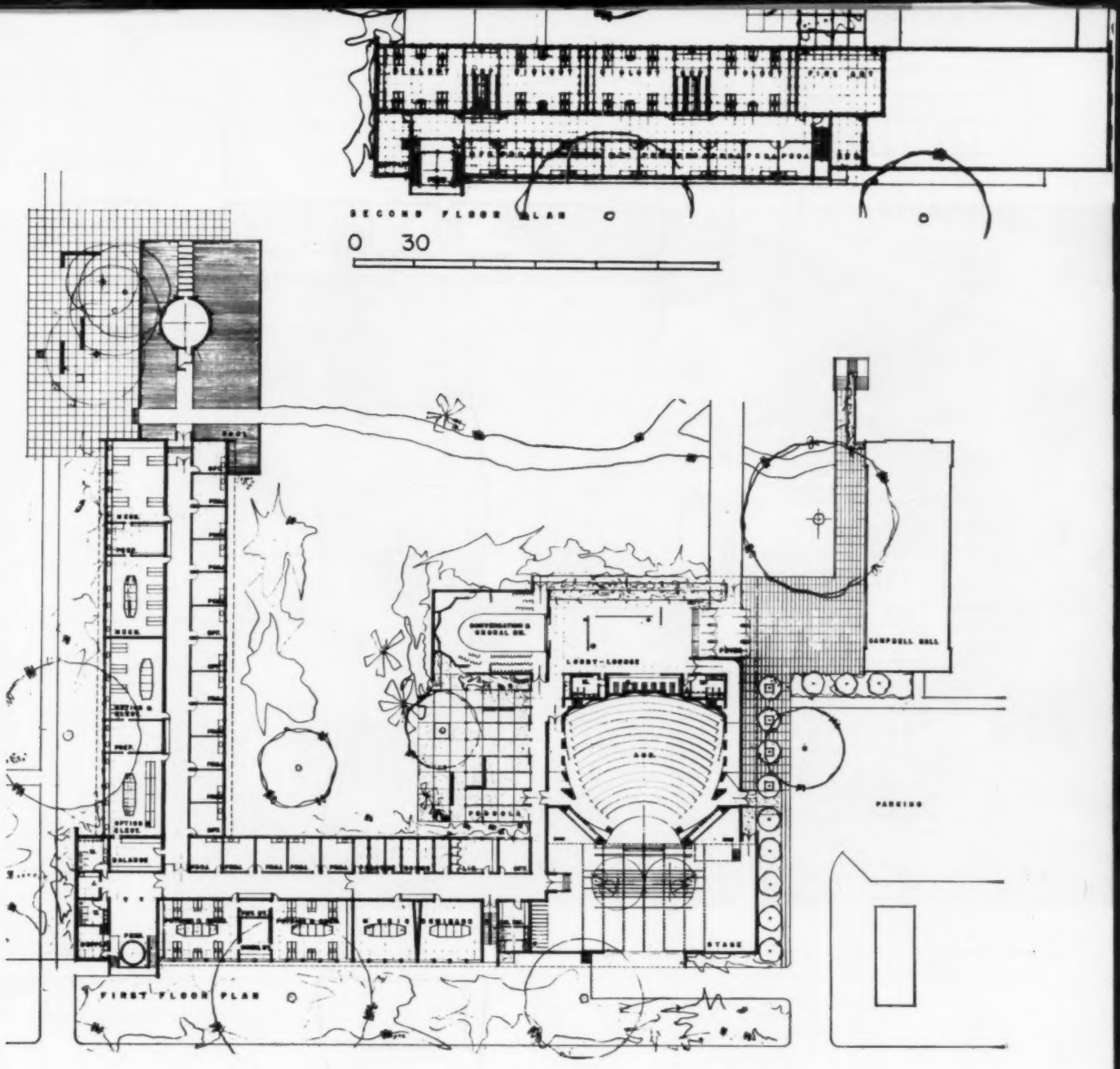


UNIQUE CURRICULUM GENERATES EXCITING BUILDING

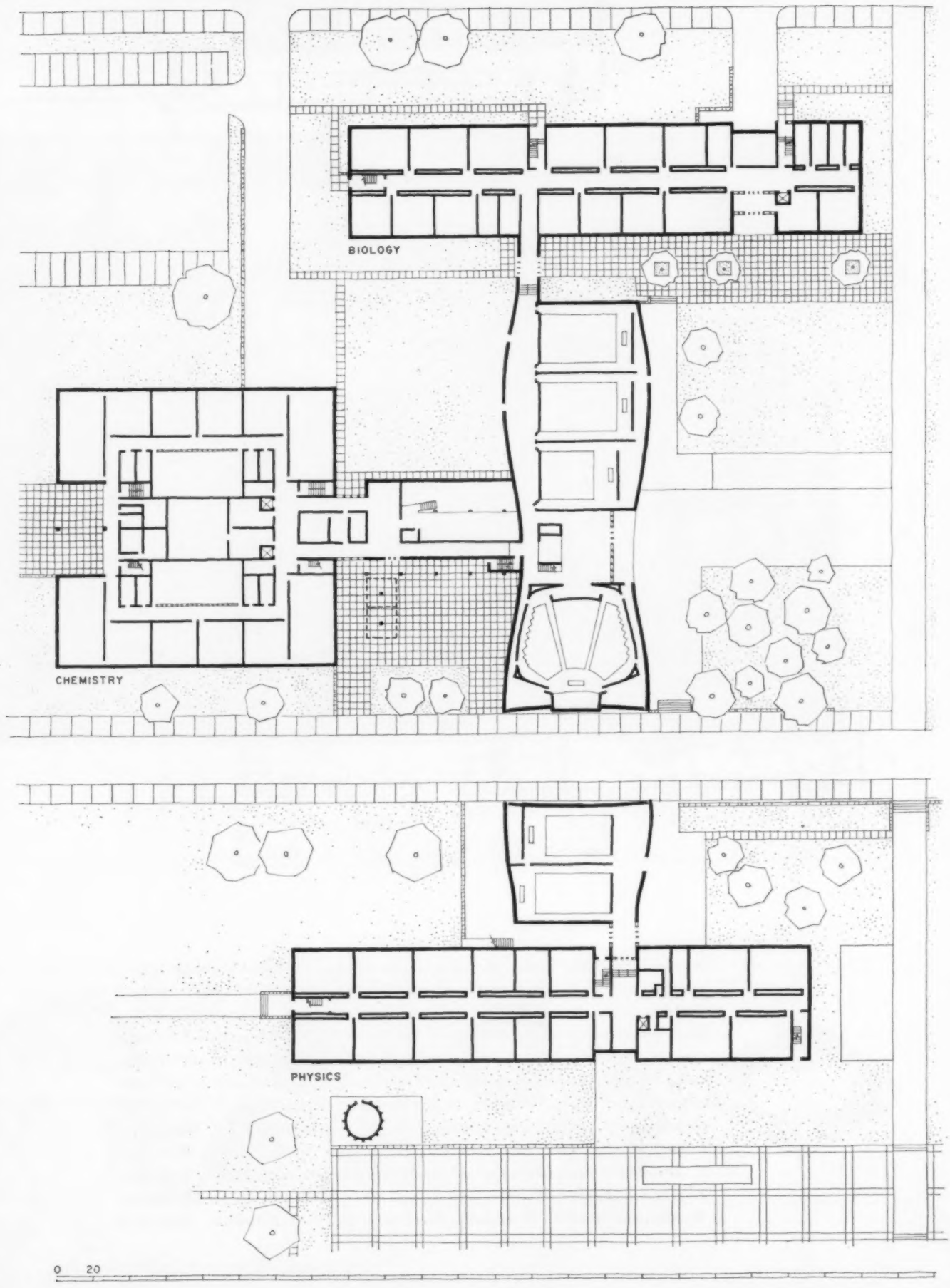
ST. JOHN'S COLLEGE, in Annapolis, is venerable and unique. It is the possessor of "red and white" buildings in a lush, green landscape and an unusual curricular philosophy. In planning to triple the enrollment to 300 students the college chose architects who believe that building form must develop from detailed study of activities to be accommodated. In visits to the campus totaling a month the architects and their wives studied the curriculum and talked at length to students and faculty, with whom they formulated a thoughtful program. The first new building of the few that will be necessary houses science facilities, a fine arts unit, and an auditorium carefully planned for the traditional Friday night visitor's lecture, as well as dramatic, choral, and convocational uses. Adjoining its lobby is the "conversation" room where shape and variety of seating arrangements have been developed as

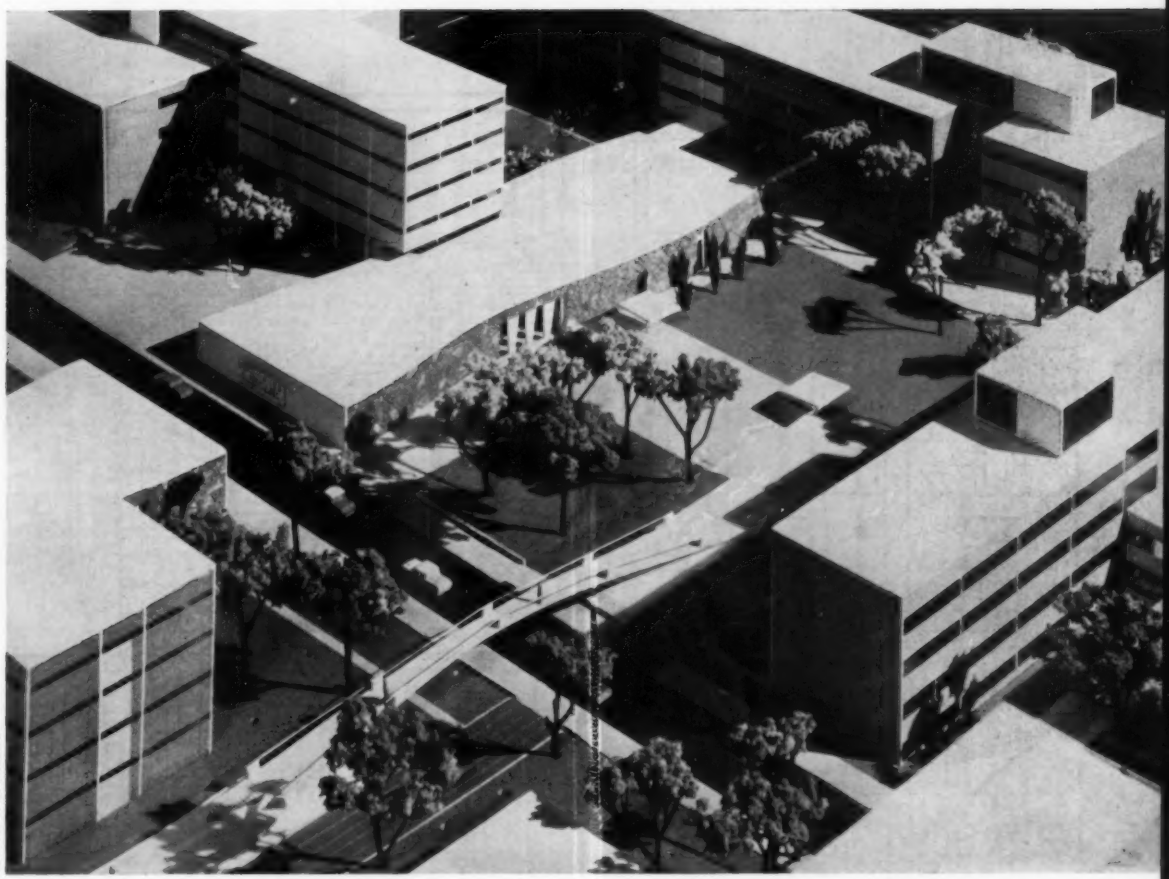






painstakingly as the flexibly arranged laboratories and the interchangeable project rooms and offices. Each of these types has evolved from the particular study methods used here (example: seminars in labs) as well as from basic concern with acoustics, glare, ventilation, and easy communication (a dozen or so table groupings for seminars and tutorials can be achieved). A small planetarium (*upper left*), an observatory, and a 40-foot-pendulum shaft will afford opportunities for astronomical and measurement observations. Faced in brick and limestone, the low-silhouette building has been designed to underline the campus scene. ***Architects: Richard J. Neutra and Robert E. Alexander; Associate Architects: Dion Neutra, Robert R. Pierce, C. Howard Miller, Richard R. Stadelman, Immanuel Lewin, assisting; Engineers: Parker, Zender and Associates, Structural; Boris M. Lemos, Mechanical; Earl L. Holmberg, Electrical; Dr. Vern Knudson, Acoustical***

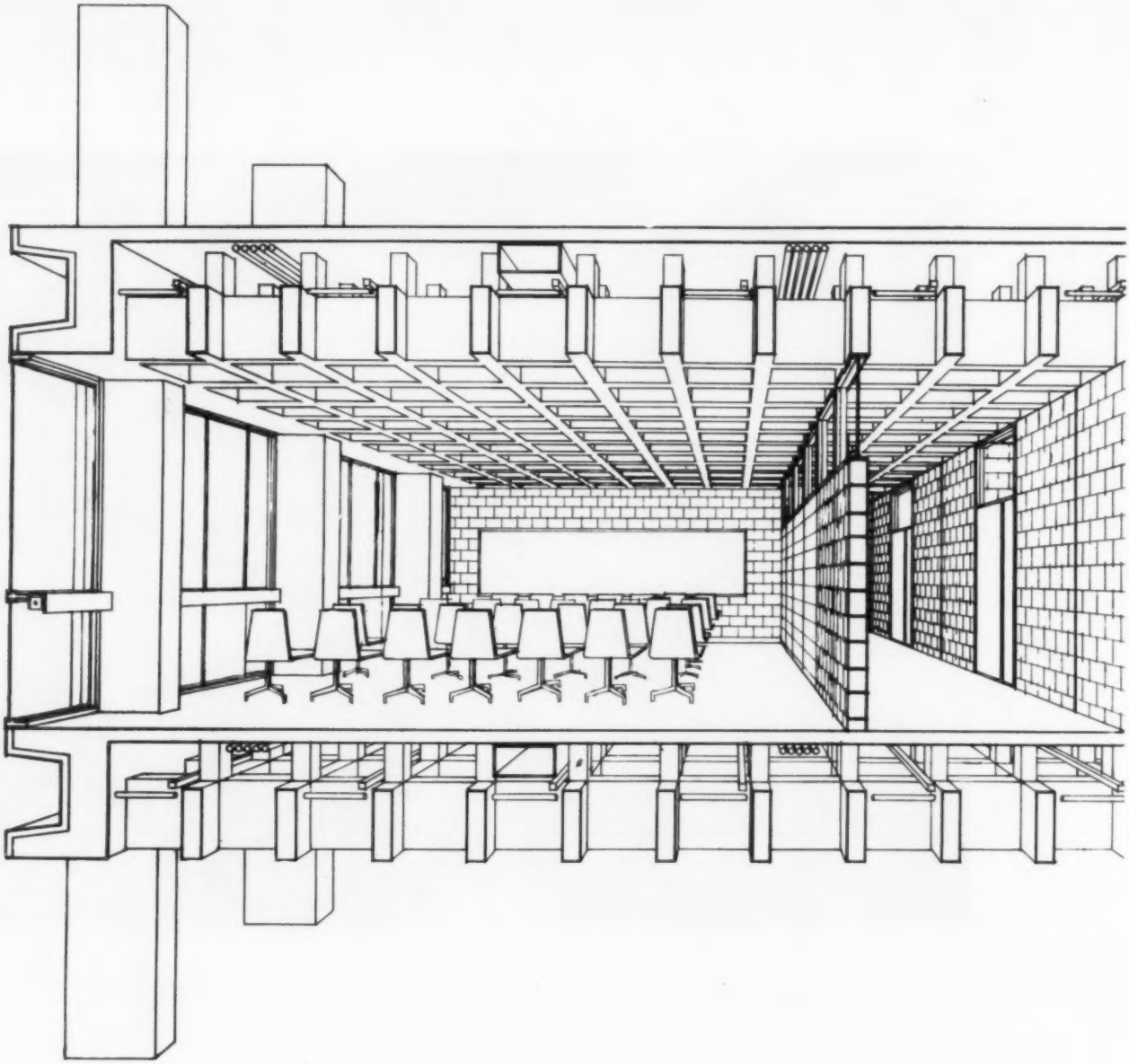

BIOLOGY
CHEMISTRY
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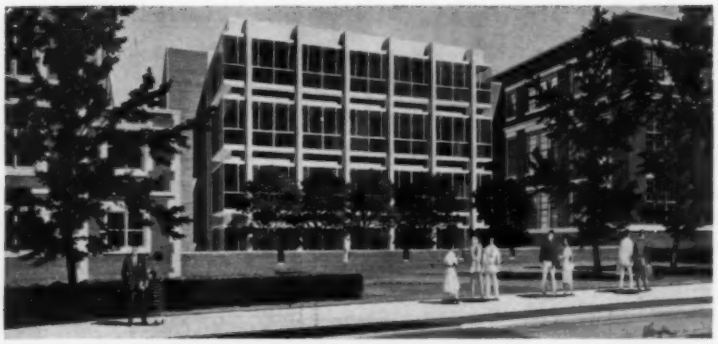


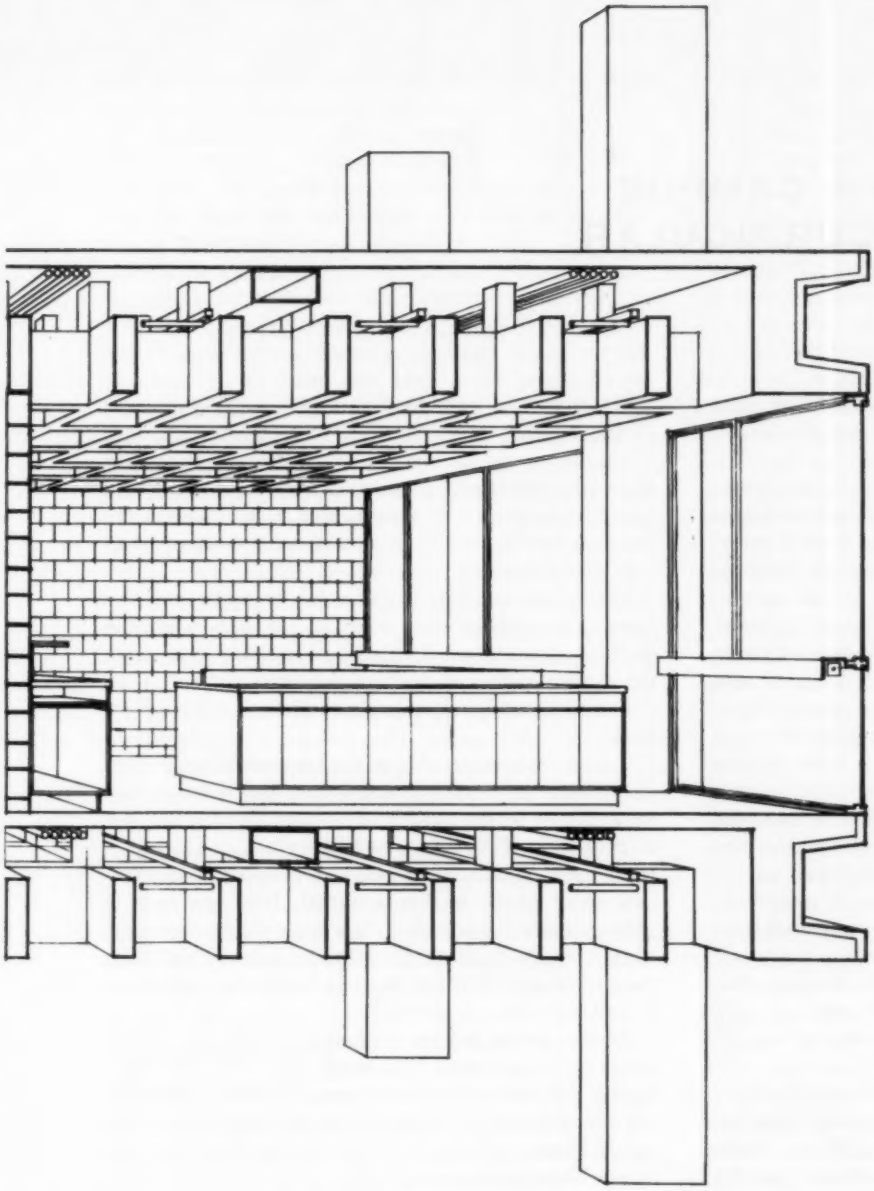
Cortlandt V. D. Hubbard

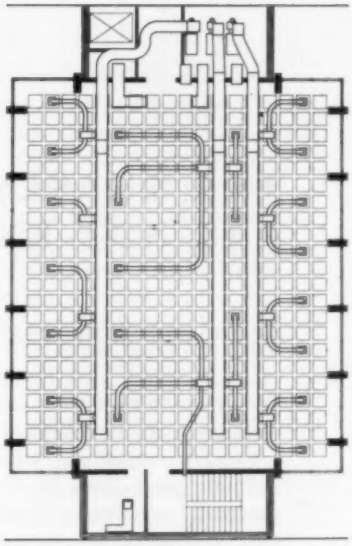
MAXIMUM USE THROUGH WELL DESIGNED FLEXIBILITY

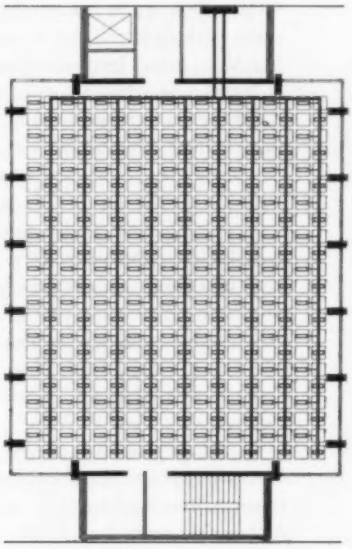
TEMPLE UNIVERSITY has asked its architects to organize space on $400,000-an-acre land. A large element in the first stage of the redevelopment program is a Science group consisting of Biology, Chemistry, and Physics units organized around common library facilities and a group of adjacent one-story lecture spaces. Separation of these permits easy public use, as well as the complete interchangeability between remaining classroom and laboratory spaces. These are developed out of strictly modular elements with laboratories formed from two or three classroom units. The University specifically desired the interspersing of classrooms throughout all specialized areas. In consequence the modular scheme became imperative, as well as the inclusion of basic mechanical-electrical services in every space. All buildings are completely air conditioned. ***Architects: Nolen & Swinburne.***











THE ORGANIZATION AND THE EXPRESSION OF UNITY

THIS REMARKABLE INTEGRATION of spatial, structural and mechanical requirements is a four-story addition to the Moore School of Electrical Engineering at the University of Pennsylvania. Research laboratories, offices, class and conference rooms must possess here a high degree of interchangeability. Partitions and the electrical and air conditioning supply must be flexible. The latter is achieved by locating all services in the 14 in. space between the floor slabs and the two-way, reinforced grids which support them. The 50 by 60 ft clear span grids are supported continuously by channel-shape edge-beams, expressed without compromise and in great harmony. ***Architects: Robert L. Geddes, Melvin Brecher, W. W. Cunningham; Engineers: Dorfman and Bloom, Structural; Jack P. Hartman, Mechanical; James T. Clark, Electrical; Bolt, Beranek and Newman, Acoustical***

THE SHAPES ON A CAMPUS ARE NOT EXTRACURRICULAR

By RICHARD J. NEUTRA*

WHAT EDUCATION WILL LOOK LIKE in the future, and therefore what the college of the future might look like, is a fascinating mystery to all of us.

Ample predictions have been made by authentic specialists concerning 1980. Many of our forecasts seem to relate in one way or another to what I would call "progress pride." We are living in an age undoubtedly very proud of progress. Not in all the ages in which education occupied minds were people as proud of progress as in ours. Never has so much of grand statistical material been gathered and collected and put to so many immediate uses. It seems always that it is large quantities to which we like to refer when we speak of our glorious time and the still more glorious future. But our information and our knowledge have characteristics that are somewhat different from the wisdom of the ages. Our sort of knowledgeable consciousness is extremely numerical. It is based on the quantitative approach. It is statistical and "specialistical" and analytical. It is very hard to imagine that from all these figure-rich specialistic approaches there will emerge universalistic wisdom — and yet it seems that the root of the conception of *universily* connects with some universal cosmopolitan attitude. Are we cosmopolitans?

Young people, in the ages before the jet and the flying constellations were invented, could transfer from Salerno to the Sorbonne or to Salamanca without losing an hour's credit. But I have three sons whom I found it very difficult to have transferred from any place to any other place, even from USC to UC in the one state of California, not to speak of neighboring Mexico. It wasn't difficult to do such things in those dark ages. To be sure, the scholars traveled on foot, but they got there to sit at a master's feet. On the way, traveling as lowly pedestrians, they were fed and put up in haystacks. Everybody respected learning and contributed good will for the studious.

We are perhaps too proud of our age; too proud that we have shrunk the globe.

We architects have been trying to explain progress in architecture to the lay person in about this way: "You see, we are surrounded in our days by these new materials, the startling technical novelties, these new installations and new gadgets and new construction, and so, you understand, we must have also an architecture of the new day."

Unfortunately, there is a new day every twenty-four hours. The problem then is not to get dizzy while the earth is spinning on. Campus architecture needs less the "quick-turnover type of fabulous future" than does the seasonal fashion business of the ladies' apparel trade.

Yes, we have emerged from the horse-and-buggy stage into the age of electric transmission, and from electric transmission to the atomic age — and there is one age after another. They follow each other fast, and the devil takes the hindmost. Man surely is run over by this fast and faster traffic he has conjured. But why is man getting under the wheels in this wonderful progressive world? What has it to do with the colleges and with the breeding of thinking men, and with the architects' housing of college activities?

At the outset we must recognize that not all the needs of organic man have really been studied objectively. All the mechanical forces we have harnessed are not necessarily or automatically favorable to the subtle human relations of teacher to student and *vice versa*. These precious relations have had some other and less mechanical origin.

What is technically feasible and commercially desirable from an inventor's standpoint is not necessarily desirable for you. And if his technological development is in the field of lighting, for example, it can come so fast that a biological adaptation, such as the eyes underwent for thousands of years to fit the natural scene, is out of the question. Whether the whole thing is humanly tolerable in the long run is not primarily in the minds of the inventor and his backer.

Technological and commercial fireworks illuminate our scene while we teach and train our young. Progress is all well and good. But unless we develop some biological checks and balances, you can see under what determining circumstances we would have to design a campus such as that for the University of California at Los Angeles, where officials predict 41,000 students in about fifteen years. They must plan in the near future for 17,000 cars. They will have to run over an immense

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* ***All who know Mr. Neutra's work and writings are aware of his long-continuing concern with the physiological and psychological determinants of form. In this paper — whose substance was originally presented to the convention of the Association for Higher Education in Chicago this year — he relates this approach to problems of campus design.***

aggregate of concrete paving to scattered parking areas, because you cannot put a metallic herd of 17,000 on one stamping ground. You decentralize and figure the intricate geometry of placement, so that every student can reach his classes conveniently from this or that parking place. His scholarship may well be impeded by the traffic engineer's mistakes.

I may say these 41,000 day students we are going to have in twelve or fifteen years on this particular campus are based on only 12 percent of the high school graduates. That is a conservative percentage, as percentages may run. If we figure that some more young people become ambitious and capable, how many students will we have then? If one tentatively multiplies that current percentage by about eight to get a full quota, we might have 320,000 students; for perhaps no one will want to take a back seat in a world that produces fifty times as much as the clever time of Voltaire and Benjamin Franklin. And we go on multiplying. We merrily multiply with the factor of projected car ownership, and you see we have more and more general commotion around departmental, specialistic parking places, while less and less universal wisdom emerges.

But while we are producing so mightily what we are progressing into seems really not anything but chaos — the terrible thing that frustrates us and has frustrated the human mind, even in mythology. It is the horrid thing man has hoped he had behind him; hoped that deity had abolished in an orderly, lovely creation.

The Greeks called the universe *cosmos*. It is the same word for *jewel* in Greek, universal jewel, order, harmony. That was God's gift, the jewel, the universal jewel. They thought chaos had been in the beginning but that it was happily over and ended after the gods had taken up planning.

In principle, Babylonian astrologers were quite right, believing that there was an environmental, a universal influence active in our lives. It surely is not as stupid as it may have looked on the first "non-superstitious" glance. The universe with its cosmic rays, its electricity, its solar light and heat, has something to do with us, and our very chemistry and physiology. The impact exists on an adult, and even more on a growing person. A student on the campus and a child in the home are surely marked by biological individuality, but the designer of environment must not think those ancients ignorant, who intuitively felt how deeply man with his innate and evolving sensitivities is integrated into the universal landscape. What a terrible responsibility the most ignorant architect has for our lives and for our ability to flower and bear fruit in the future — at least over the amortization period. It takes so much decision and time to tear down buildings firmly built the wrong way.

When the University of Paris or Vienna, or any of the medieval universities were founded, it was quite clear in those days of expressive architecture that form was of the essence, that it was a vital human concern. Architecture was not just an assortment of cubic feet and dollars and cents and tons per square foot of ground pressure and kilowatts, and what-have-you. It had a *shape*, a *Gestalt*. The attitude in creating it had a family resemblance to the original attitude that created the cosmos, the beautiful supreme shape. People at that time were not overcome, as we are, by the enormous decimal numerology of the statistical, quantitative approach that started to become popular in the 18th century. Since the "great revolution" democracy has depended on counting noses, votes, and everything else, as a method leading to decisions. I would like to suggest that we have gained much, but we have also lost something while we were "figuring," and architecture, *shaped environment*, has been discredited, since all faith has been put in figures.

Comprehensive shape disappeared while quantities began to loom in significance. Strangely, the word "figure" means in English both number and shape. Plato used and cherished the word "idea." He deemed it to be at the bottom of everything. In the Hellenic language and culture it happens that the word *eidos* means both idea and shape. For architects this has great import.



Ewing Galloway

"When the University of . . . Vienna, or any of the medieval universities were founded, it was quite clear . . . that form was of the essence . . ."



Ewing Galloway

In Mexico "I saw the second oldest university of the hemisphere go modern in its building"

As architects for new work at St. John's College in Annapolis, where Socrates is said to have crossed the Delaware, we tried hard to understand its approach to learning — to get the shape from the idea. I am not really competent to describe the philosophy of St. John's, but it helped our design to understand that there are no professed specialized teachers or "professors." They have no courses or classes in the general sense. They have tutorials and seminars. There is one lecture given on Friday evening which everyone attends. After coffee, there follows a dialogue between questioning students and the off-campus lecturer. We have designed, and there are under construction, both the lecture hall and the adjacent discussion room — in a way really the heart of the campus.

While we were working on this, I came to think tentatively that there are two ways of advancing wisdom. One is based on dialectical curiosity. Probably Socrates would have agreed. The face-to-face group is fertile and productive, if dialogue is guided in a masterly fashion. Socrates would find what is truth, what is dignity, what is virtue, by just talking with people in the market place. A wonderful method, and by certain means of design one can accommodate it architecturally. But we have also to deal with other kinds of mind-advancement than the dialectic ones. There is another approach to wisdom. There is *observational curiosity*, comparable and parallel to *dialectical curiosity*. Both will have to be accommodated in a full curriculum.

At St. John's we tried to plan these two curiosities together. This was worked out in long and careful sessions with the collaboration of the faculty. We attached seminar rooms to every laboratory. Guided discussion by the student group tests the validity and logic of experimental observation. We worked very hard and with great interest to find out how all this functions. It was extremely instructive and fascinatingly determinative of layout and shape.

I have been talking about old universities which had shape, like the *cosmos*. I would say shape is not only a *sequitur* of function, as the masterful H. L. Sullivan would have said. I have thought over this matter of "form follows function" again and again. First of all, *shape* is not lifeless and static; it is *itself functioning* — and *further* it is the *cause* of function. You have only to look at the colorful and beautifully shaped birds who are shaped, at least in part, so that the species will be propagated by means of this attraction.

Manmade shapes are surely not all mechanical in origin and motivation. To explain the human world in terms of use, technique, and material, as the great 19th-century architect Gottfried Semper did, is now belated materialism which had its philosophical heyday a hundred years ago when educated people glibly used the word "matter," and believed they knew what it was and meant. Those were also the days when industrial technology was a promising teen-ager. I do not propose, like Jean Jacques Rousseau, to return to nature, but I do propose as true progress one that is physiologically tolerable. We have completely lost sight of what can be organically sustained under the conflicting impact, not of progress, but of the millions of progresses which the patent office in Washington has in its mounting records and methodically files in a new wing to be built every year.

I propose that instead of looking with exaggerated emphasis on either today or yesterday, we should give up flavoring them with either technocratic or archeological awe or accents. We should in no case dress up romantically. Are the classical and the contemporary necessarily clashing, or are they capable of gentle combination? At St. John's, after going over the venerable campus, we explained first to ourselves and then to our friends there: You have had and used these dear old buildings, some of them since the 17th century, opposite to the State House of Maryland, itself one of the monuments of early America. What are we going to do now with these new buildings? One cannot put imitation glass pearls into a bracelet of genuine ones without making even those suspect. Imitation would be merely a superficial flattery of the past, not a true and

deserved honor to its lasting values. Since I have visited all the leading universities of this and other countries on this side of the Iron Curtain, I can testify that a campus lasts at least one hundred years longer than any Hallowe'en party.

When President Aleman and the late Carlos Lazo of Mexico imported me as a sort of honorary consultant, I saw the second oldest university of the hemisphere go modern in its building, although some of its original teaching and construction had started before the middle of the 16th century. In the oldest university of the Americas, in Santo Domingo, which had its beginning when Christopher Columbus hardly had ended the middle ages, there is an entirely contemporary campus under the gorgeous live-oak trees. Being short of manifest tradition, we in our country have been prone to adopt conspicuous revivalism. I have been a guest in one Gothic graduate center where we put on black gowns every time we went to dinner, and the students, especially the architectural students, did it with tongue in cheek. I have never understood how they could eat, chew, and assimilate with tongue in cheek.

Our procedure and design decisions should be guided by realism, yes, but not by the realism of dollars and cents; not by that realism which recognizes that the donor has given the money and therefore has the divine right to decide what to do, even if it is against human biology. Actually, a donor has no wish to be remembered as ridiculous. His chief concern must always be the living student and the living faculty. These are the inhabitants, the users, of whatever we build on the campus.

Like children leaving a family the graduating student will carry the impressions of his home all his life, one way or another, as a grievous burden or as a cherished image. The environment in which he develops may be a perennial anchorage for his soul. The harbor we hope for and hold in our memory as alumni is mostly a shape or an integration of shapes and not an accumulation of figures.

I want to accept my share of responsibility for all the sins that have been committed by modern architecture, whether I was definitely connected with it as architect, or as a consultant, or perhaps only gave it support by the nod of a privileged guest. I cannot and do not claim to be a sweetly innocent bystander. Collectively our fraternity of architects is responsible not only for leaking roof flashings and for wrong "guesstimates" or blowing up budgets, but above all, for much of these surrounding shapes that are life determinants.

We are housing educational activities and accommodating educational aspirations. We must help educators with sympathetic understanding and particularly the top administrators who labor hard to coordinate all these specialties so characteristic of our life today, on the campus and off it. We must house the education of the future so that in a manner of speaking it develops toward the partition-less, not the over-departmentalized. It may be profitable to reflect on the ideal of one big room, so people can hear and see each other, as in the open colonnade where Aristotle taught, or somewhat after the fashion in which Raphael placed the informal groups of philosophers in his colossal canvas, "The School of Athens." There were no partitions, no equipment, no plumbing to worry about, no hermetical laboratories or fume hoods, but a good deal of clinical contact with the universe and plenty of fresh air.

In any event, a human being is one whole at all times, and the architect must recognize this and shape the campus environment according to this truth. Man, like fish and birds and beasts of all kinds, is shape-motivated. Form-consciousness is as little extracurricular as our need for physiognomic contact which relates to it. A campus can more satisfy by offering opportunity to be face to face, than fender to fender. No king-size, two-tone progress should be allowed to overcome the thoughtfulness that now withers in our massive rush. The campus of the future must honor and salvage the ancient tradition of human biology and, I hope, become a valid model of other human communities to come.



The Bettmann Archive

"... *after the fashion in which Raphael placed the informal groups of philosophers in ... 'The School of Athens'* "

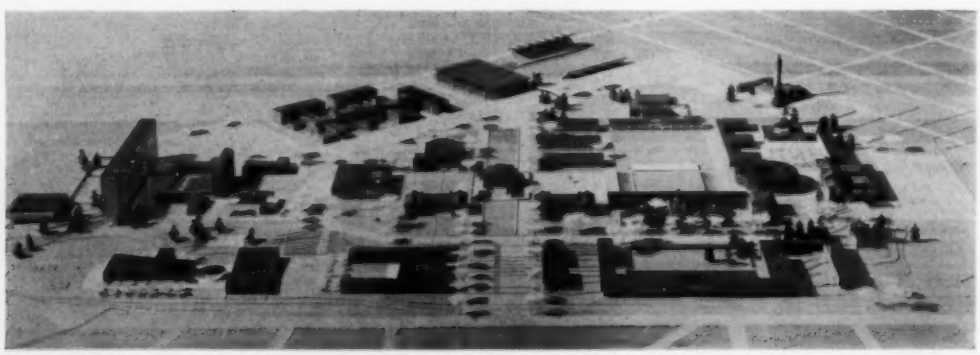
A MASTER PLAN FOR THE UNIVERSITY OF BUFFALO

THE UNIVERSITY OF BUFFALO is situated on the northern boundary of the city, adjacent to Grover Cleveland Park; its 178-acre campus is roughly triangular in shape, and its existing buildings (indicated opposite by a lighter gray tone) form the nucleus for the proposed long-range campus plan. Existing buildings include a five-unit dormitory group at the north end of the campus (center top, opposite), lecture halls and library in the center, gymnasium at lower right, and engineering building at center bottom. Among additions proposed are a new residence hall and dining room-lounge building to the north of the dormitory group; a Fine Arts Center to the west of that group (see pages 181–183); a Student Union Building to the south of the dormitories; an addition to the library; additions to classroom units; a field house and stadium at the eastern corner of the campus; and a new circular research building close to the south end of the campus. Also proposed are an addition to the medical research facilities and a new nuclear research center.

The new dormitory unit, the Student Union Building, the Fine Arts Center, and various classroom buildings would receive priority according to the program as developed by the architect Paul Schweikher, and his associates, Earl P. Carlin, Peter Millard and Edward N. Marcus.

■ ■ ■

The Master Plan of the University of Buffalo was intended to be a guide to short range planning by indicating the general objective of long range plan and is to be used by the University Administration as a point of departure in both short range and long range planning as much as a specific plan. Many changes may occur over the years in the requirements and in the location, use and design of projected buildings. . . . It is anticipated that the building forms will be more and more disciplined to the simple and the rectangular as time goes on. . . . The plan is underway in development, especially in the sense of road-ways and parking. It acts as a control to the thinking of all but is as much a point of departure as it is a disciplined framework for future planning. ***Paul Schweikher, Architect.***



Model of proposed long-range plan for the University of Buffalo

THE ARTISTS ARE OUT OF THE ATTICS

THE DEVELOPMENT OF CAMPUS CENTERS for activities in the arts has recently flourished as the arts have gained in curricular importance. The traditional assignment of basements and attics to the campus painters, sculptors and craftsmen, and the use of remote or casually adapted space to insulate serious but noisy activities in music and the theater from the quiet scholars have given way in many places to well conceived and centrally positioned buildings, planned with the requirements of creative people in view. Equally important is the growing recognition of the arts as a contributing force in the education of all students.

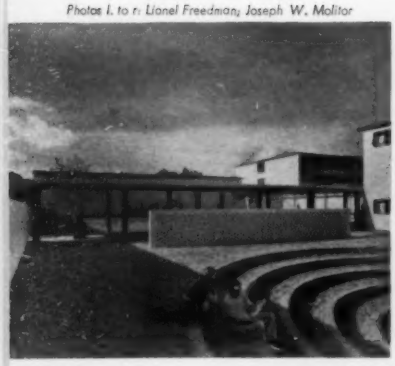
In schools where the emphasis is not on the preparation of professional artists (Dartmouth can be cited as an example) there are elaborate plans for centers which not only focus attention on the arts and provide facilities for their development, but which hopefully aspire to a fusion of understanding and acceptance of the arts through the combination of areas for specialized activities (in music, drama, and the visual arts) and inviting space for the pursuit of miscellaneous interests peripheral to the curriculum.

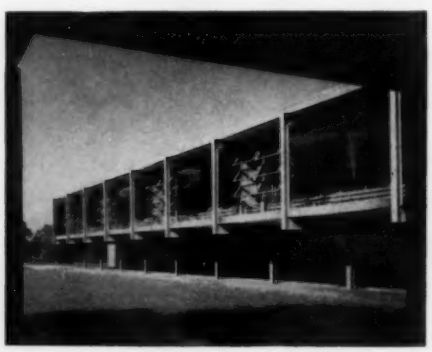
Each institution, of course, solves its problem of housing the arts in terms of its existing facilities, its academic purposes and its concept of the general relationship of the arts to mature social intelligence. One institution may consider itself adequately served by space for presentation — gallery spaces, recital and lecture halls, theaters and similar public areas. Another will find these inadequate unless supplemented by studios, shops, rehearsal rooms, storage and faculty work rooms and all of the specialized relationships and equipment that these imply.

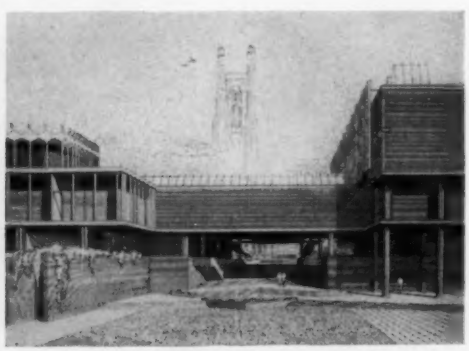
The advantages of bringing the arts together in a single building or building complex can be cited. Thoughtful planning on the part of the architect can lead to the encouragement of a flow of interest from one activity to another, without creating new confusions. Thus the architecture itself can serve the ends of education.

Architecturally, of course, the campus art center should affirm in unmistakable terms the right of architecture to be considered the creative equal of the other arts. The campus residents of today are the trustees, politicians, teachers and business leaders of a rapidly approaching tomorrow. If the arts touch them deeply, they will respond; and the widest impact of this microcosm will be made by the building itself. ***Norman L. Rice, Dean, College of Fine Arts, Carnegie Institute of Technology.***

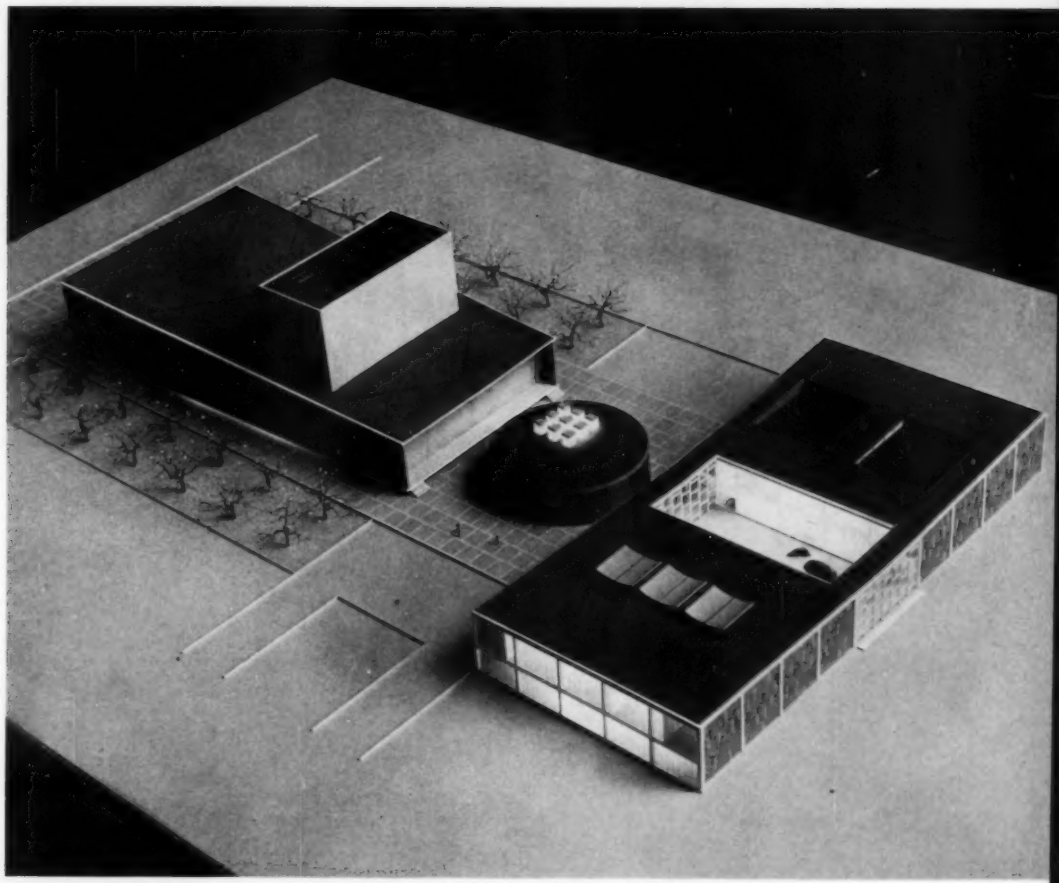
Photos l. to r: Lionel Freedman; Joseph W. Molitor







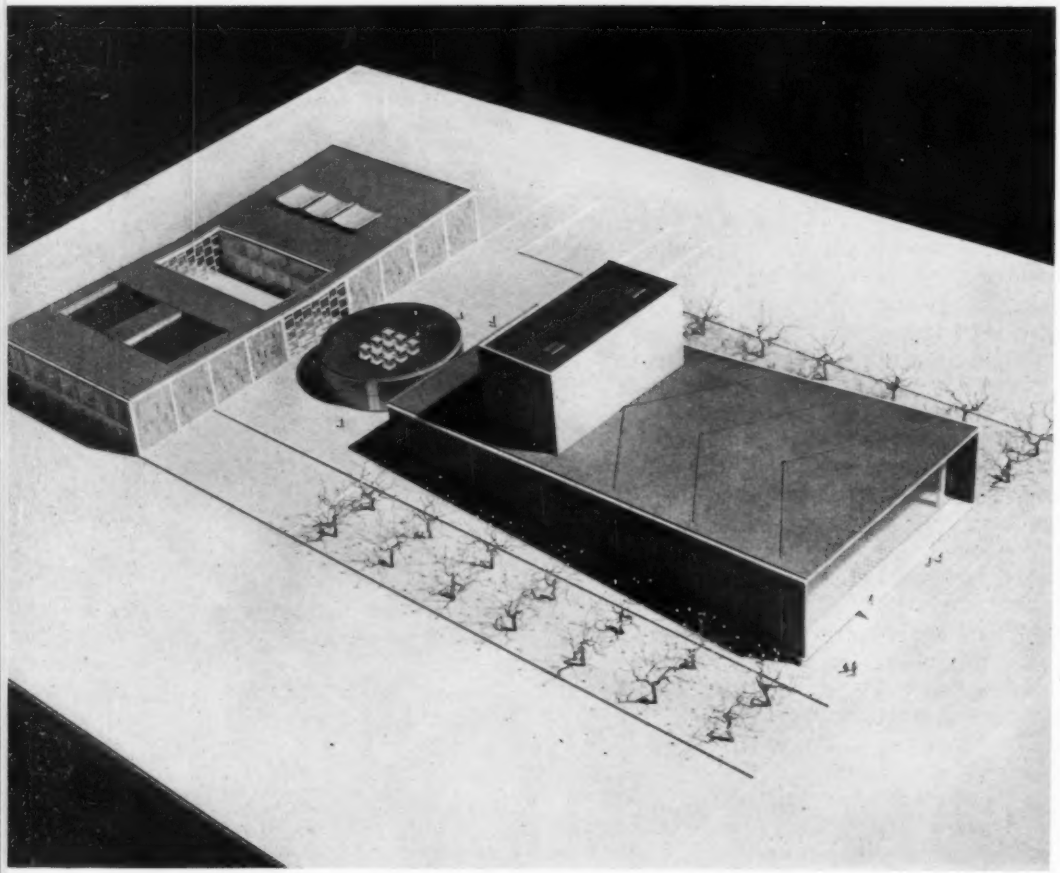
Left to right: Fine Arts Center, University of Arkansas, 1948, by Edward D. Stone, Haralson & Mott, associated; Fine Arts Center, Maryville College, 1950, by Schweikher & Elting; Mar Cooper Jewett Arts Center, Wellesley College, under construction, by Paul Rudolph, Beckwith & Haible, associated

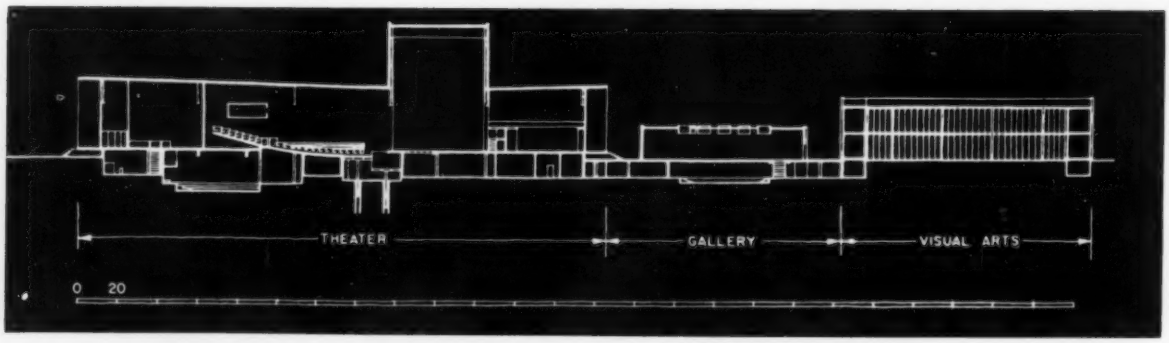


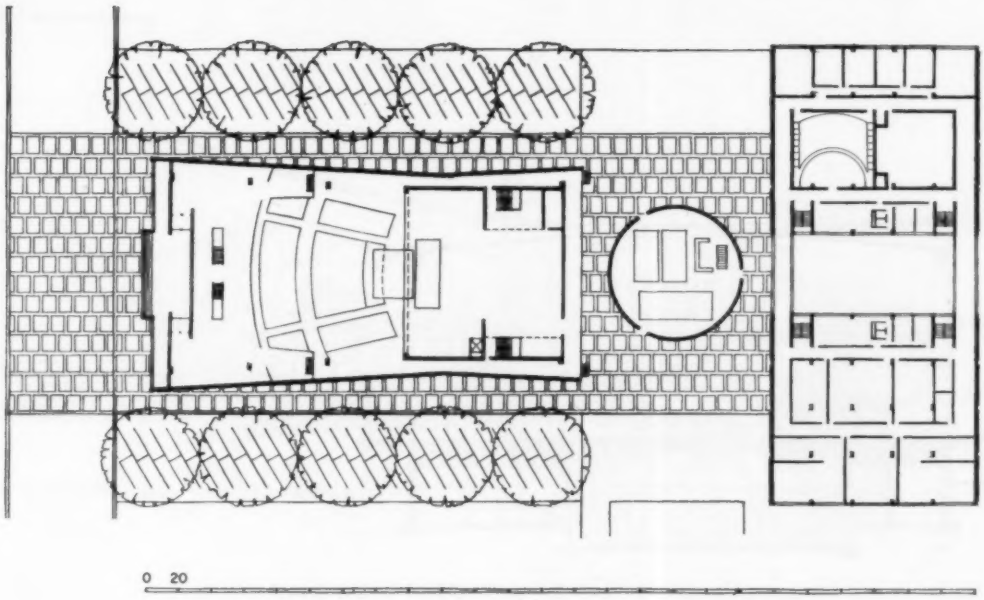
FINE ARTS: A HARMONIOUS STATEMENT OF FUNCTION

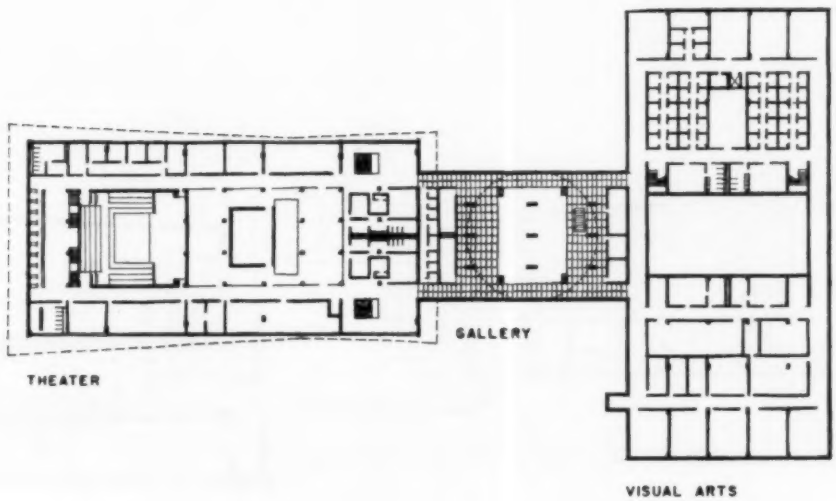
AT THE UNIVERSITY OF BUFFALO the new Fine Arts Center is now partially under construction, with the music section nearing completion. Eventually the Center will consist of three separate structures, each a straightforward expression of its function, and all merging into a harmonious whole.

In the music and visual arts building, the architect explains, "the rectilinear discipline has, to some degree, been followed. The pitch of the roof is partially for the purpose of modifying the skyline, but is adapted as well to the need for increased height at the studio ends, especially in the visual arts section. It is meant, too, to act as a foil to the slope of the theater." On the sub-level are practice rooms and sculpture and ceramics rooms, linked to the theater by an underground passage that passes beneath the circular library, where it forms an exhibition gallery. Classrooms




THEATER
GALLERY
VISUAL ARTS
0 20

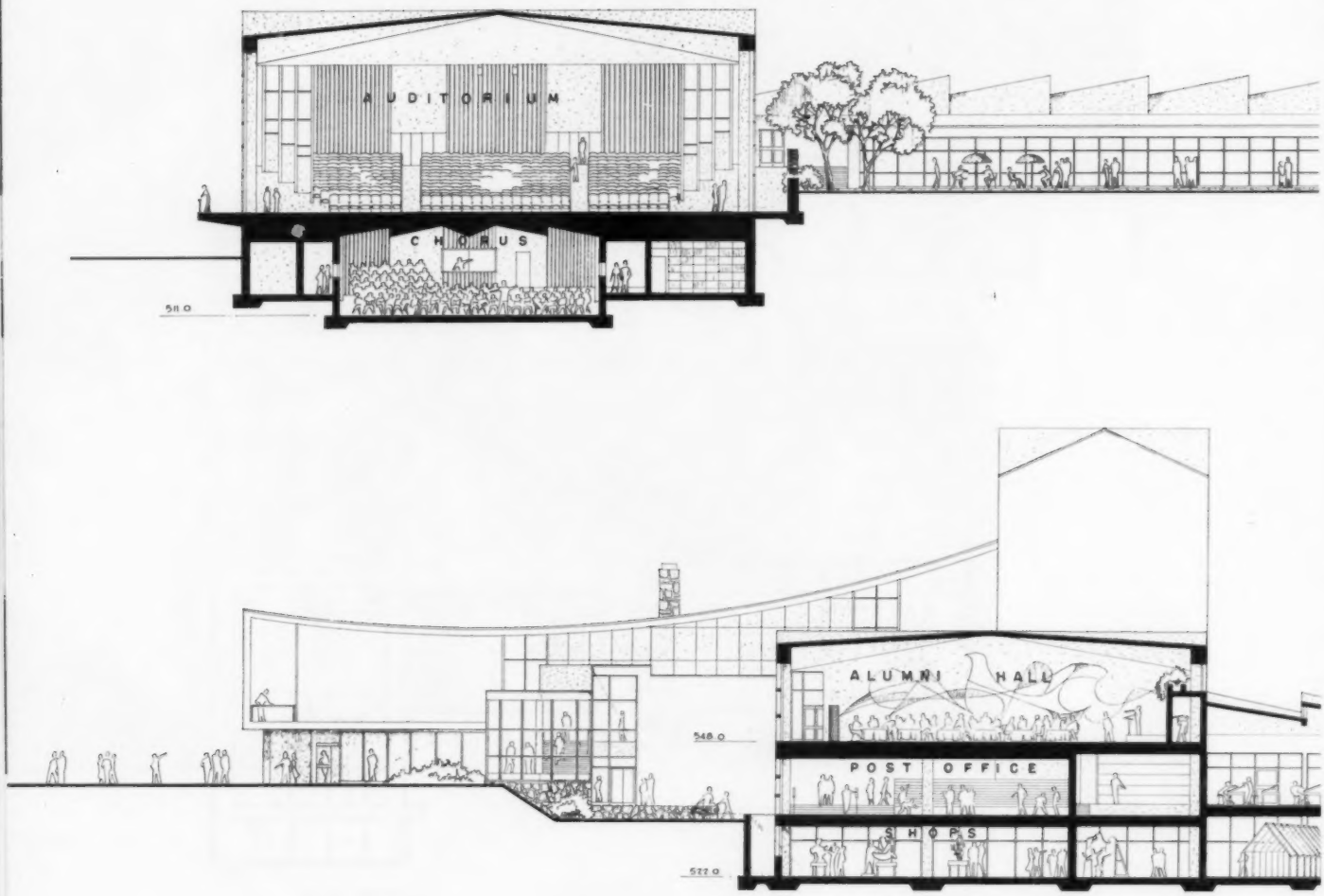


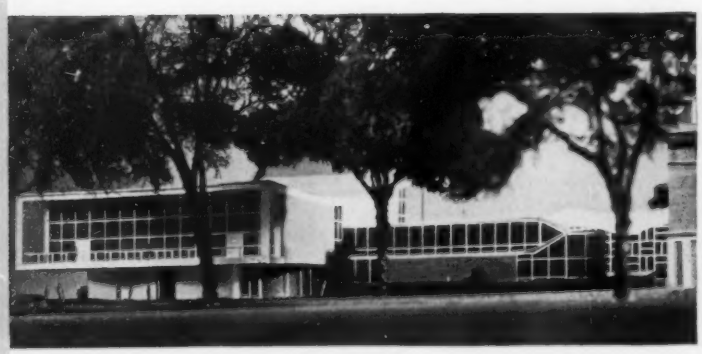


and studios occupy the upper levels of this unit, together with band and chorus rehearsal rooms.

The library is intended to be a working library containing books and portfolios of art, sheet music, microfilm, slides and records; it will have access to listening booths at the sub-level.

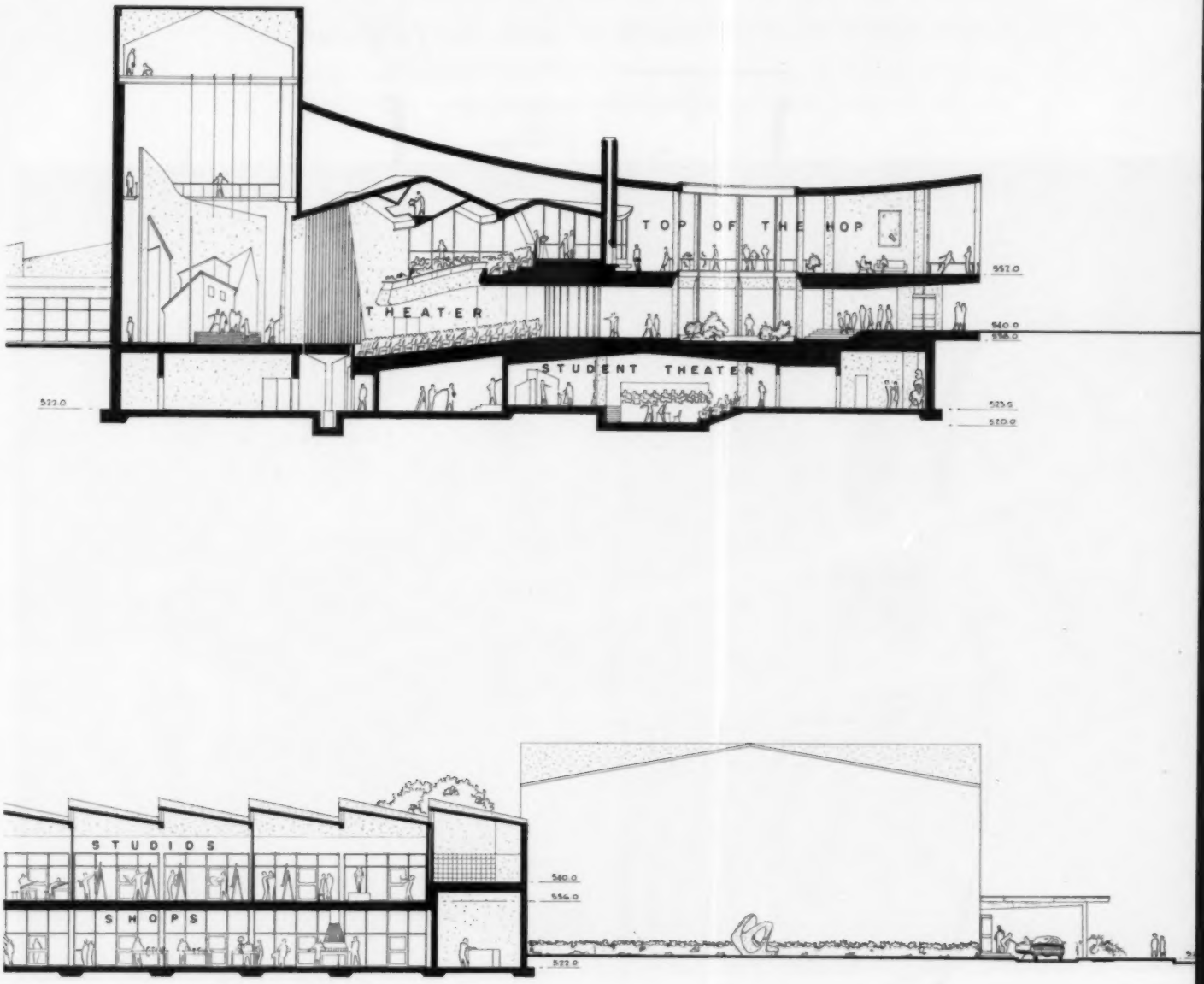
The theater will have a large stage and generous work space for scene and costume design and production. Its auditorium was designed to be readily adaptable by a set of metal curtains (similar to medieval chain mail, the architect comments) for audiences of 500, 800 or 1400. ***Architect: Paul Schweikher. Associates: Earl P. Carlin, Peter Millard, Edward N. Marcus. Consultants: Structural, Henry A. Pfisterer; Mechanical, Fred S. Dubin; Acoustical, Bolt, Beranek & Newman.***





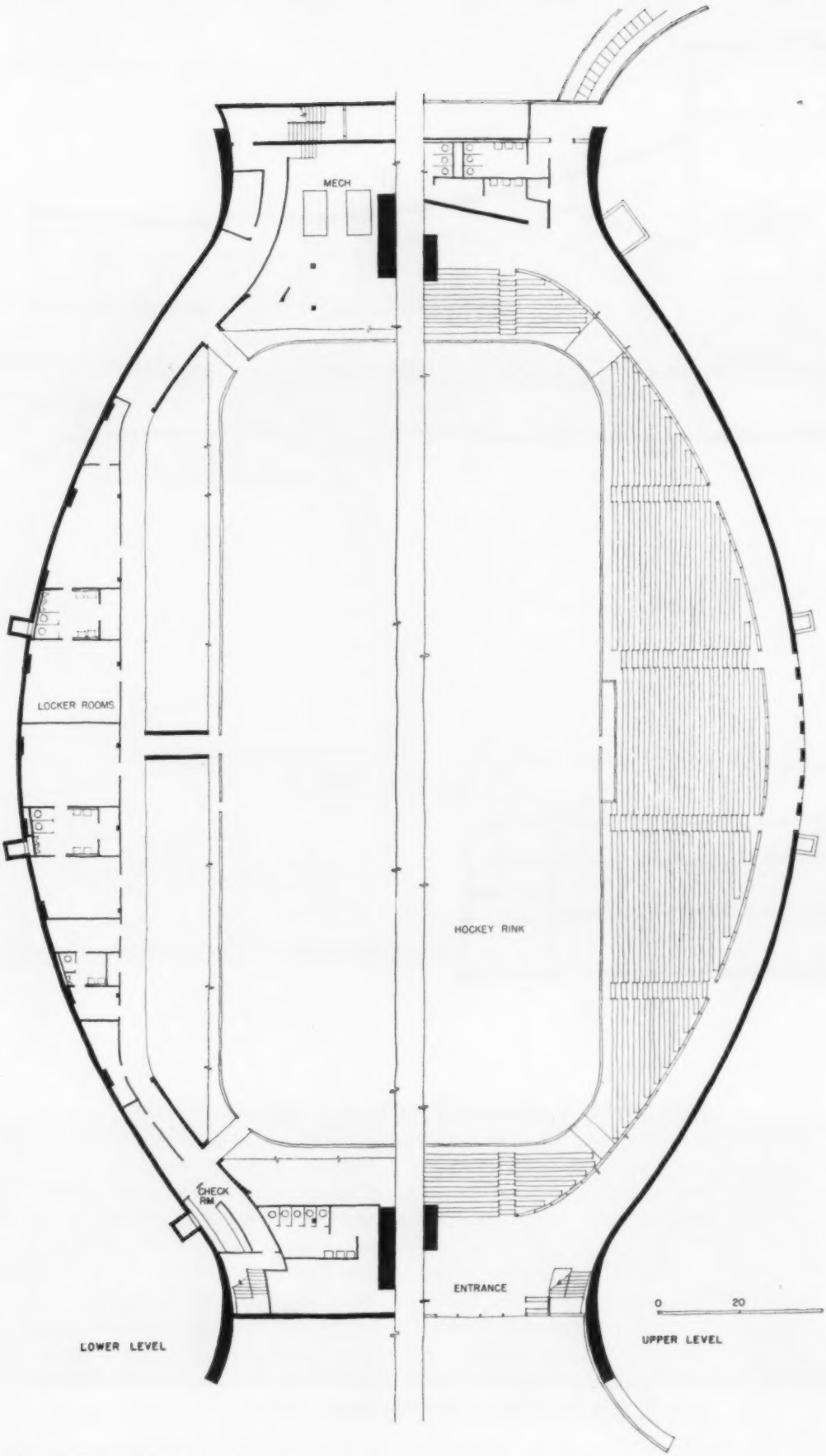


Left, model view from northwest looking toward Top of the Hop and lounge. Right, main floor corridor and art studios



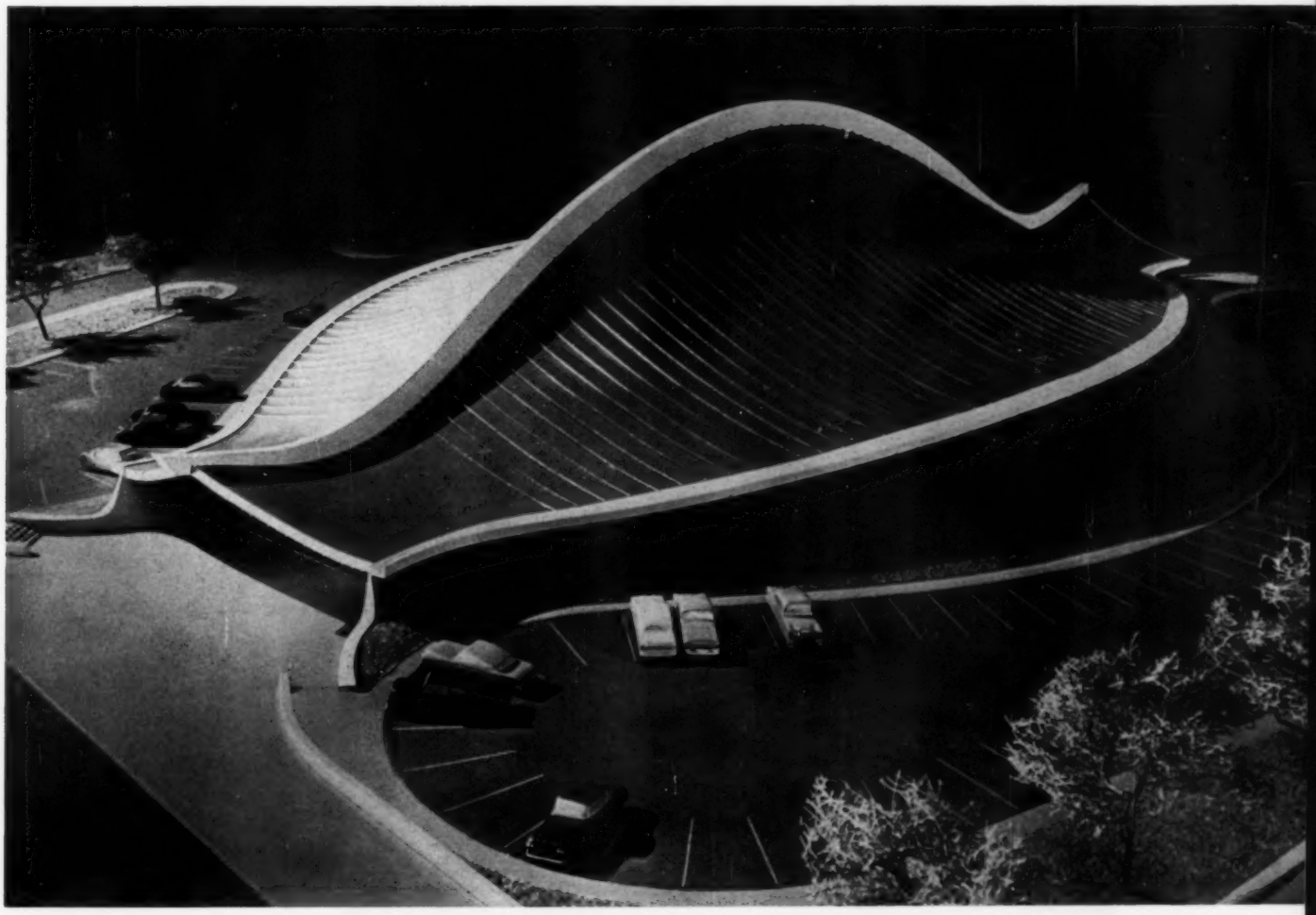
FINE ARTS: A COMBINED ARTS AND SOCIAL CENTER

CONSTRUCTION IS SCHEDULED to start next Spring on Dartmouth College's great new Hopkins Center, a $7,500,000 project intended to provide an educational, cultural and social center for the College's students, faculty and alumni. It will consist of four interconnected units: the theater block, including a 400-seat theater, a small student theater, rehearsal and dressing rooms, stage shops, exhibition areas and the "Top of the Hop" social area; the Alumni Hall block with college post office, divisible alumni hall, lounge and offices; the studio block; and the auditorium block which will provide a 900-seat concert hall, band and orchestra rehearsal rooms, glee club room, music library, practice rooms and offices. A large garden court will separate the theater and auditorium wings. ***Architects: Harrison and Abramovitz. Consulting College Architect: Nelson Aldrich.***


MECH
LOCKER ROOMS
HOCKEY RINK
CHECK RM.
ENTRANCE
LOWER LEVEL
0
20
UPPER LEVEL

RECREATION AND ADMINISTRATION FACILITIES

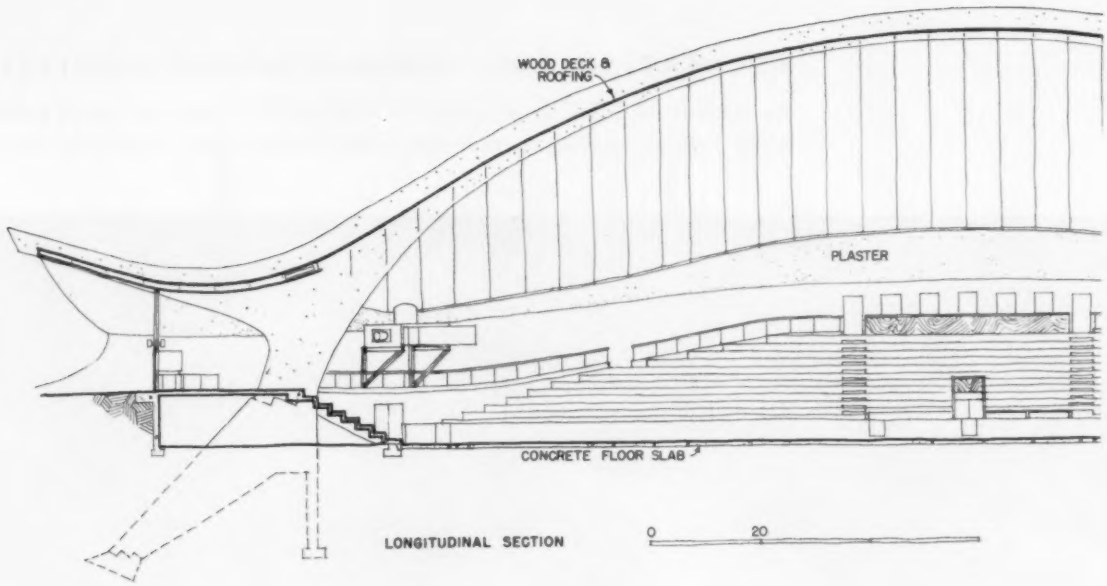
On the next ten pages are presented a few of the many types of campus buildings which help to round out a university's organizational and community activities



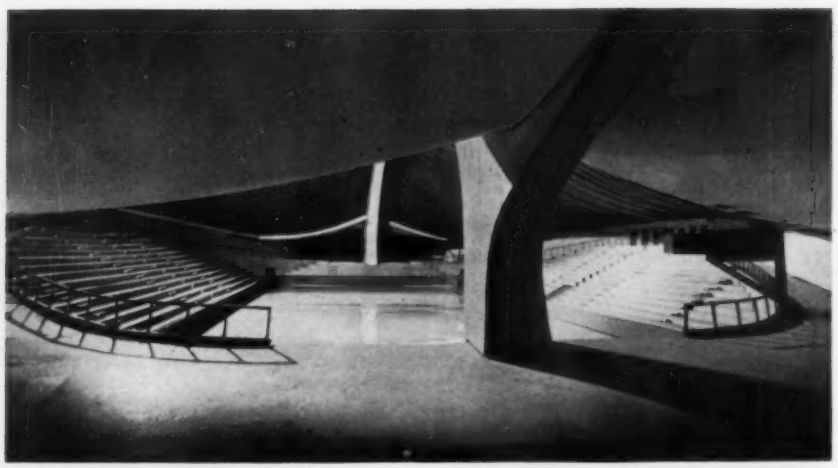
HOCKEY RINK: SPINES AND CATENARIES FORM NEW SHAPE

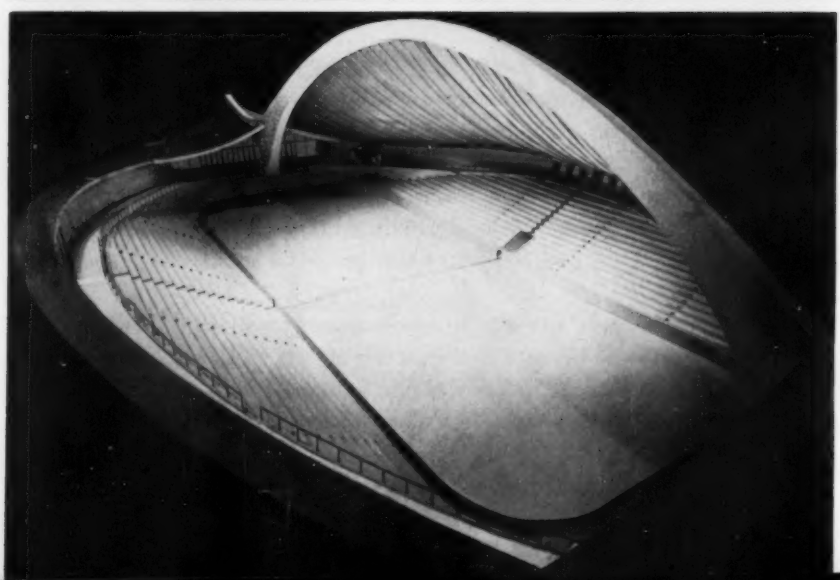
The unusual, undulating shape of Eero Saarinen's scheme for the David S. Ingalls Hockey Rink at Yale University marks another significant and firm step toward a more fluid, sculptural design vocabulary. The great sweeps of the structure neatly package (and provide column-free) the functional spaces required within; the high spaciousness of the arena center diminishes to flared fillips at the ends, which highlight the entrances. When completed, it should provide a spectacular housing for athletic events.

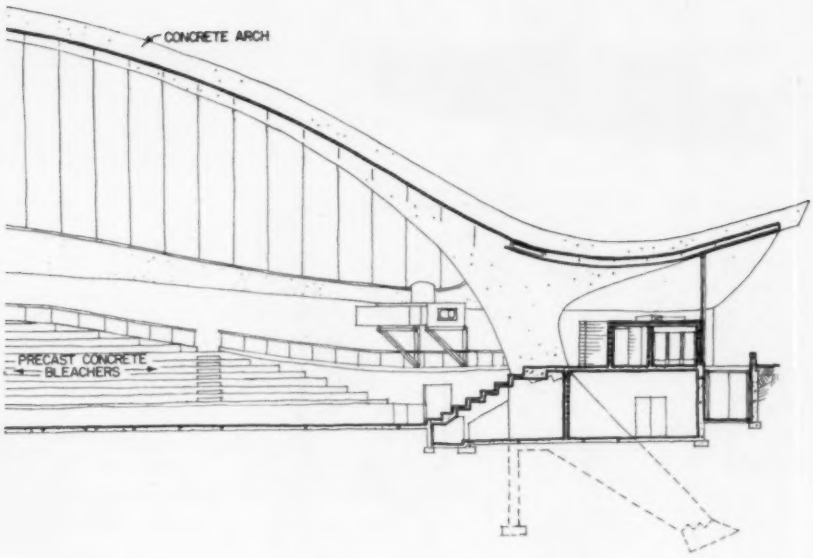
The form of the structure is created by suspension cables stretched in a catenary curve from the great spine-like arch to the curving outside walls, which are, in turn, like arches turned on their sides. The rink will seat about 3000 spectators. When there is no ice surface, the building can hold assemblies up to 5000.

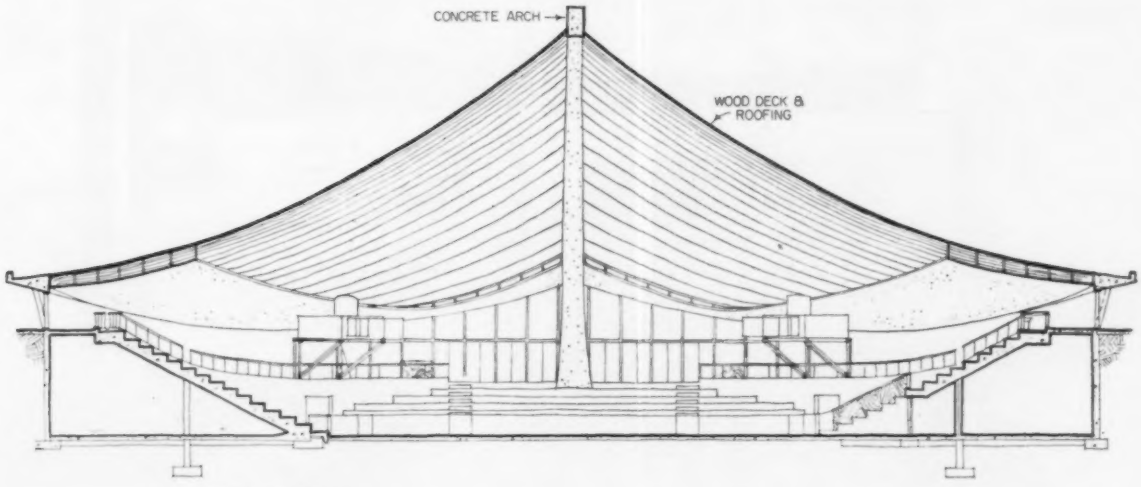


LONGITUDINAL SECTION





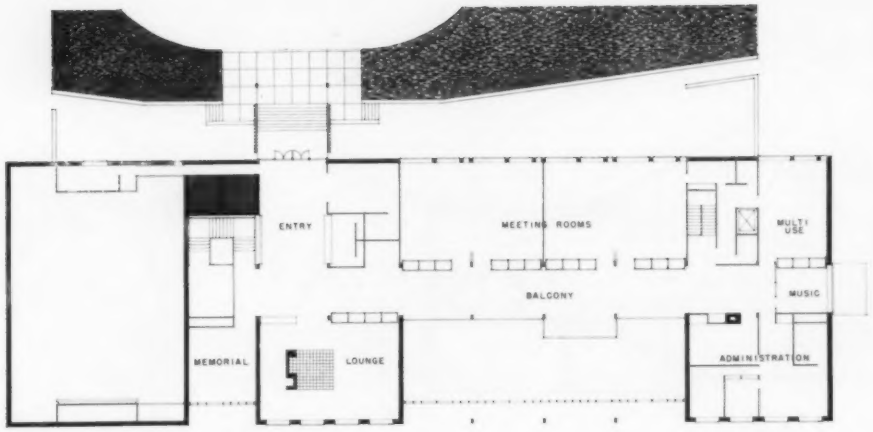




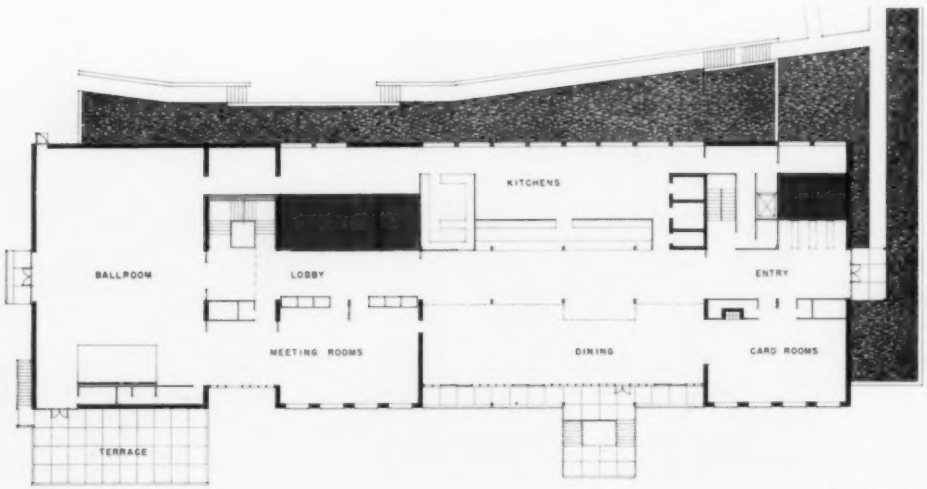
CROSS SECTION

YALE HOCKEY RINK: A PACKAGE FOR AN INTERIOR

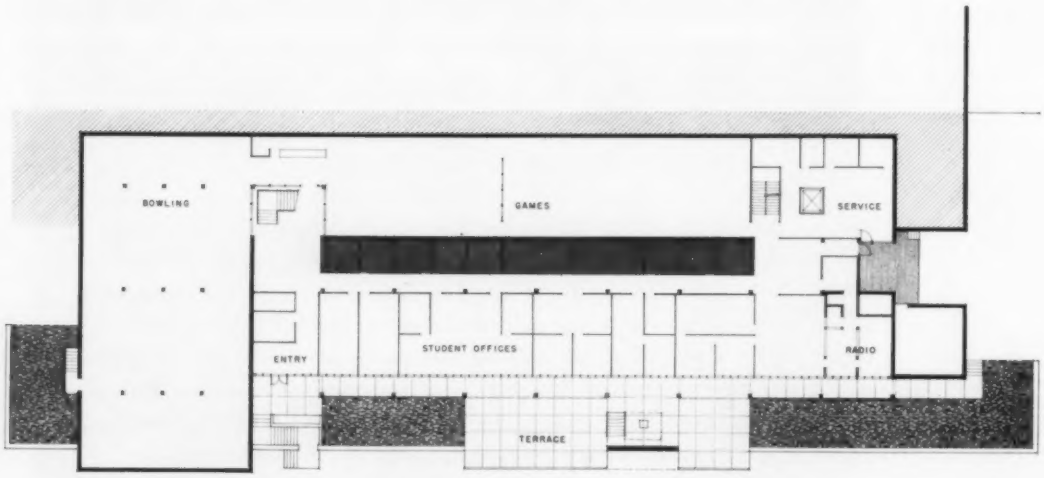
Inside, as out, the reinforced concrete parabolic arch is completely visible and dominant. The ceiling is patterned by the steel bridge strand cables strung on 6-ft centers between the arch and side walls. A wood plank roof deck is laid across nailers fastened to the cables. Over this are two base layers of roofing felt and a top layer of coarse aggregate roll roofing capped with aluminum battens parallel to the steel cables. The main entrance to the rink will be formed by a glass and aluminum wall. There are four large ventilating units in the arena; lighting is by thirty-six 8-tube fixtures hung in four rows. The lower level beneath stands on one side will be left unfinished. ***Architects: Eero Saarinen and Associates. Consulting Engineers: Severud-Elstad-Krueger; Jaros, Baum and Bolles. Lighting Consultant: Stanley McCandless. Contractors: George B. H. Macomber Co.***



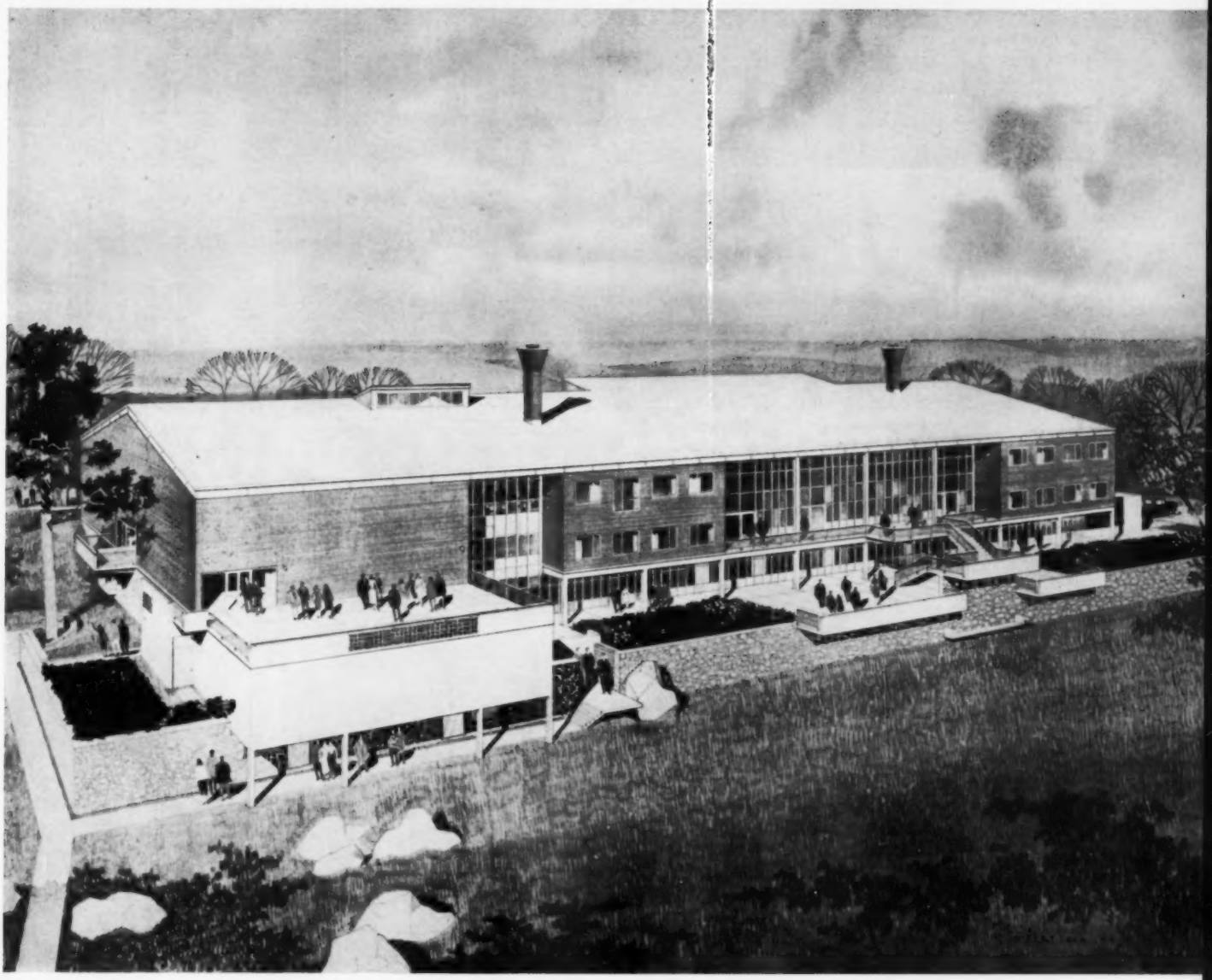
UPPER FLOOR

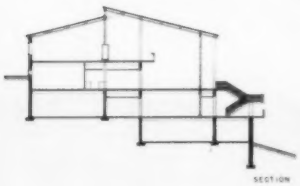


MAIN FLOOR



LOWER FLOOR





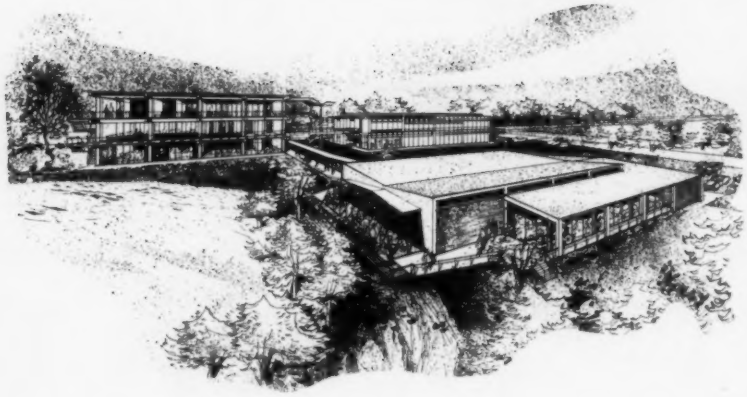
SECTION

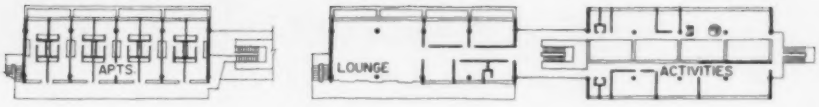
STUDENT UNION: AN AWARD WINNER NEARS COMPLETION

In 1951, the preliminary design for this clean-cut, generously proportioned building won first prize in a competition sponsored by the University of New Hampshire for a Memorial Union Building on its campus in Durham.

Today, in spite of the usual dangers of intervening time, the building stands about finished — and with very few changes in the original basic scheme. Principal modifications are a pitched roof and re-study of some fenestration.

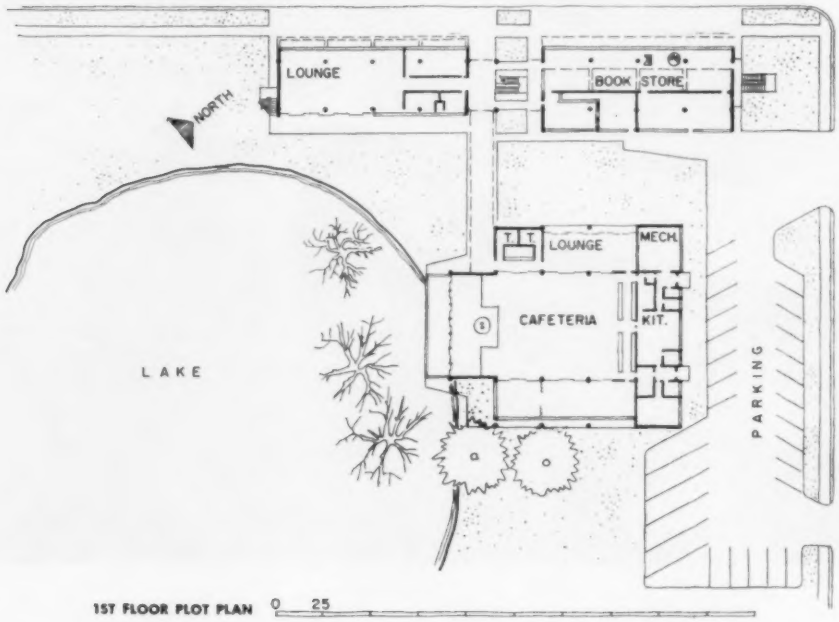
The structure combines a variety of facilities for recreation, dining, and student activities. Rooms are large and nicely disposed. Excellent use has been made of a sharply sloping site to give convenient outside access to the several floor levels, and to provide a variety of terraces and balconies. ***Architect: Ronald Gourley.***





3RD FLOOR

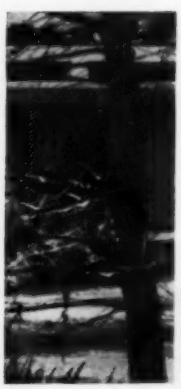
2ND FLOOR



1ST FLOOR PLOT PLAN 0 25





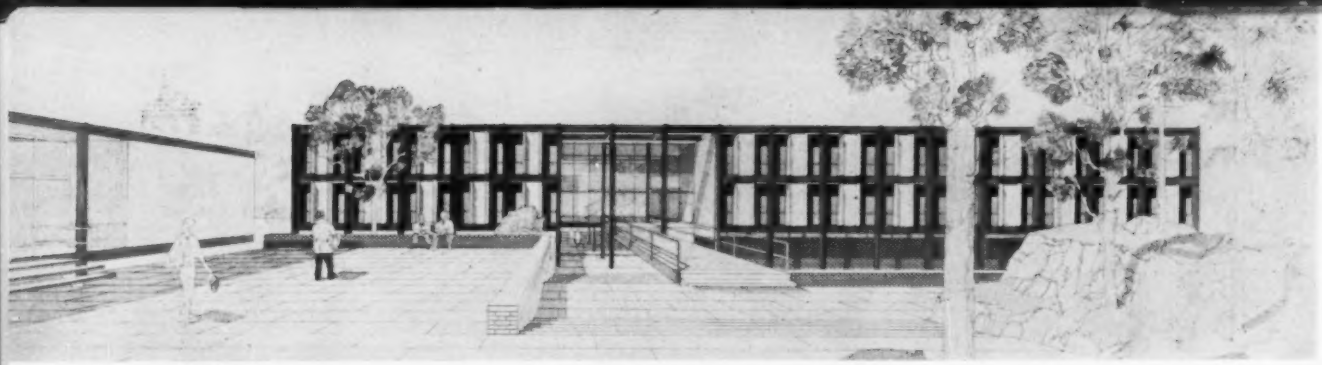


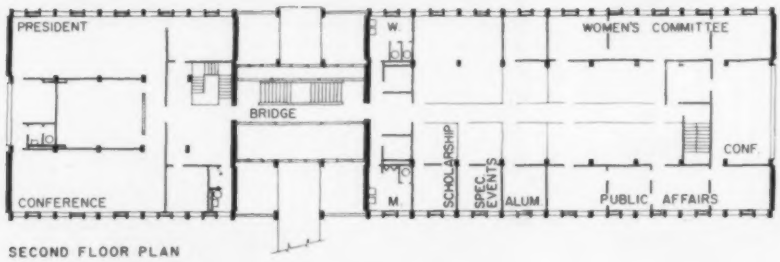
Frank Lotz Miller

STUDENT UNION: BOLD SHAPES AMIDST SPANISH MOSS

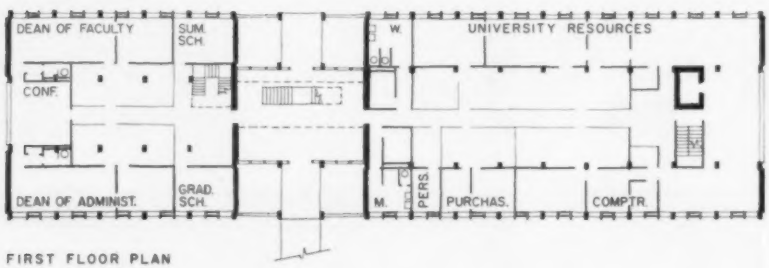
This trio of multi-purpose buildings deftly coordinates a variety of miscellaneous facilities for the campus of Southwestern Louisiana Institute in Lafayette. The building shown above with adjustable sunlouvers, a strongly accented concrete structure, has rooms for men on its first floor: a general lounge, lockers, toilets, an office and typing room. On the second level are similar areas for women, plus a dormitory and a library. The top floor contains eight faculty apartments. Flanking this, and linked with it, is a unit housing a bookstore, mailroom and rooms for student organizations.

The third building is a very flexible one which can be adapted for use as a banquet hall, student and faculty lounges, a ballroom, or a second campus cafeteria. ***Architects and Engineers: Burk, Le Breton and Lamantia.***

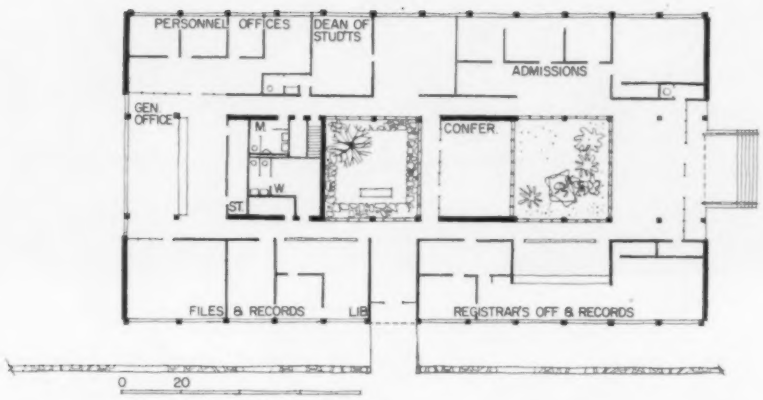


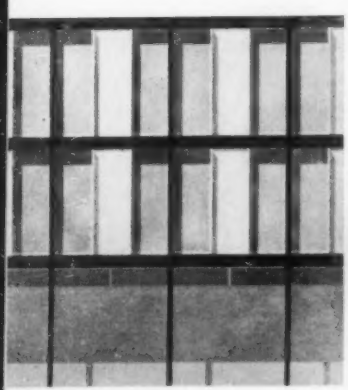


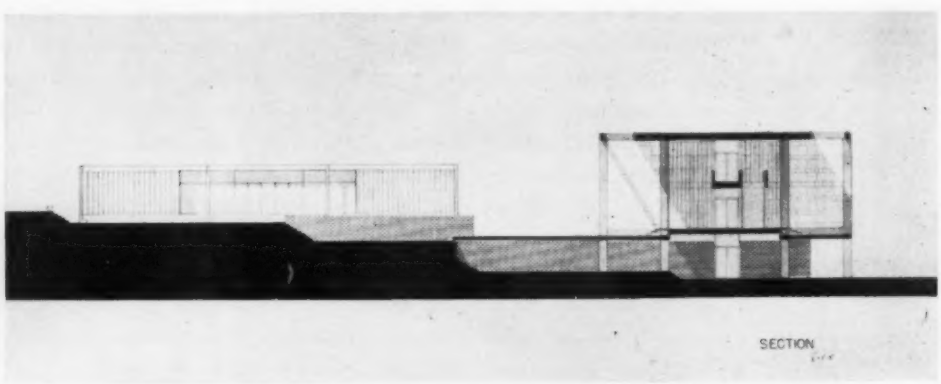
SECOND FLOOR PLAN

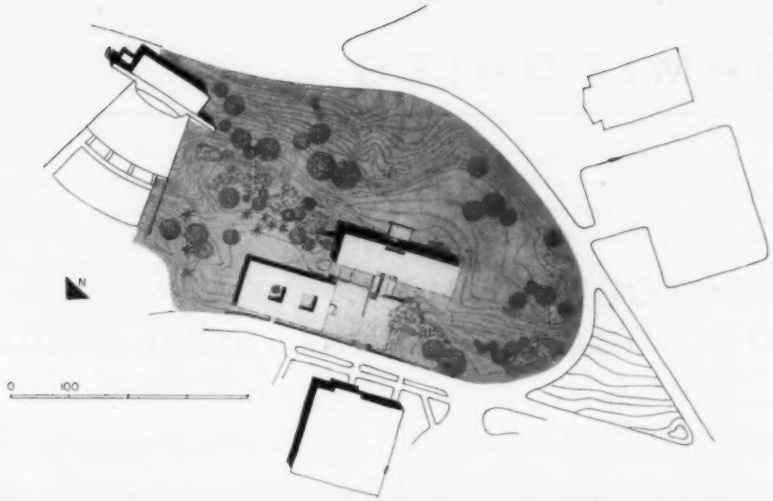


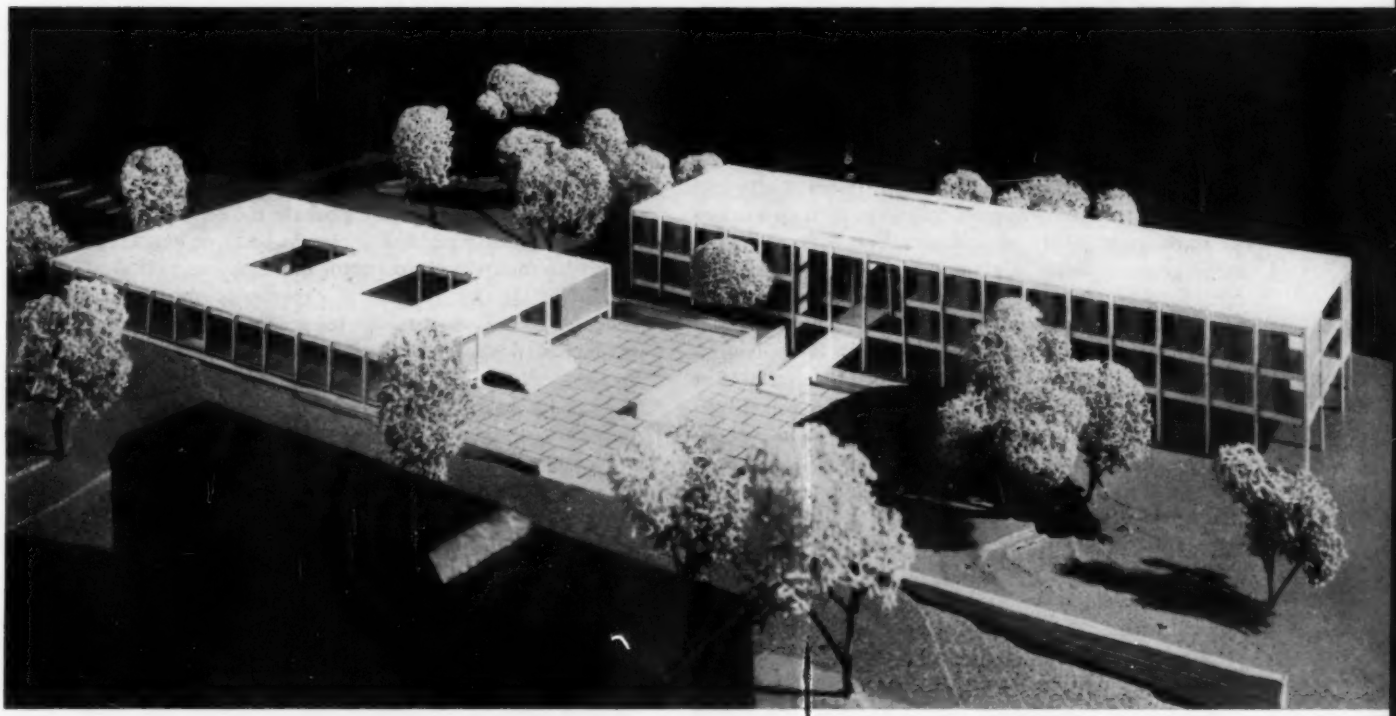
FIRST FLOOR PLAN











FOR ADMINISTRATION: A SCHEME FOR VISUAL EMPHASIS

An office building with a "campus plan" might well characterize this carefully studied administration center for Brandeis University near Waltham, Mass.

Facilities are split into three separate zones and two distinct buildings. One end of the larger building houses the executive area; the other end is for business administration. Student administration is in the smaller building, reducing traffic through the main one. The compound and plaza emphasize the importance; it forms a visual stopping place as one approaches via the drive.

The plan, structure and utilities are integrated to give wide flexibility in partitioning offices. The curtain wall has inset sections to add rhythm, obviate flatness (see detail far left). Structural columns are two steel channels filled with concrete. ***Architects: Hugh Stubbins Associates.***

DORMITORY DESIGN: ECONOMICAL HOUSING ISN'T ENOUGH

By ALBERT BUSH-BROWN, *Assistant Professor, Architectural History, Massachusetts Institute of Technology*

PRIMARY among the facts to be faced by the architect of dormitories is the individual student himself. Outwardly perhaps no different from the boy who becomes a truck driver or mechanic, no different from the girl who marries or becomes a salesgirl, the student nonetheless is separated from these by different ambitions: he shunts aside temporarily — and sometimes forever — the accepted goods of financial return, domesticity and gregariousness. He arrives at college sensitive to values in uncommon areas of culture. For him, isolation, small-group housing, a chance to select what is compatible to his personality and objectives, are important. Students occupying hotel-like dormitories often discover to their pleasure that a room rented in a house is preferable to the small cell on a bleak corridor available at college. They find in the house a scale, a warmth, a compatibility of environment with personal values, and an intimate group of friends in harmony with their needs and ambition. If the architect ignores the scholar's needs for privacy, domestic scale and identification with a small environment, his dormitories will miss the mark.

The architect will also miss the mark if he fails to recognize the collective identity existing within groups of students and the educational benefits attendant upon such identity. Proximity to other students provokes greater concentration upon learning, but it also accentuates the uniqueness of men who sever customary ties with non-academic goals, loose the bonds of identity with small communities and lower schools, and develop loyalties to higher institutions, new friends and quests. This is a disruptive process, easier for some students than others, but it is not aided by the dormitory conceived entirely as a series of cellular bedroom-studies precluding any activities that make education a corporate experience. Nor is it necessarily aided by a multi-purpose room (that horrible admission of unclear planning!) in combination with dormitory cells. What is needed is a plan containing spaces of well-defined use capable of nurturing contact among students, encouraging common participation and endeavor in specific, objective activities that release student energies.

Besides providing spaces and scale ranging all the way from individually private to corporate, the architecture of a residential system must also recognize the variety existing among students. Some arrive self-disciplined, others ready to explore all facets of bohemianism, and still others are insecure, possibly from an unrecognized need for outer control. Some are gregarious, others mavericks, and still others constricted by shyness.

All this variety presents problems for the architect and educator seeking the common denominator. Should he plan to have men live singly, in pairs, in suites, in rooms all alike? Should he provide rooms and apartments for faculty residents? Should he have long corridors with many small rooms, or suites opening off short stairwells? If, for reasons of expediency or financial economy, he is too ready to accept the minimum, standardized solution to dormitory planning, the architect may fail to obtain that variety and those controls needed by individual students, while planning for a fictionalized statistic who does not exist.

Moreover the architect must face the realities of student habits. Not all activities enjoyed by students are civilized or meditative or scholarly. They are not encompassed by studying, eating, sleeping and relaxing. What about the light controls needed by a student who still must test the long-proven false notion that man works best throughout the night? What acoustical treatment is required to protect others from the background music or the typewriter working against tomorrow morning's deadline? What materials will resist the scars of baseball played indoors? The function of a room is hardly defined by the name an architect gives it, but rather by the limits of a student's imagination. There he may rehearse a play, meet with others to speak French, discuss religion, play bridge; there he may first follow a Beethoven symphony in the score, assemble his personal library, propose to his future wife. But just as likely he may become intent upon reassembling a stripped-down Ford within the fourth floor shower room.

The architect can not, of course, plan for any of these activities, but the personality of his dormitory has got to suggest the range and warmth they imply. There is little an architect can do about the annual Spring riot, which is as predictable as the coming of final examinations; an architect can not prevent it, but the plan and materials he selects may well control that riot or at least save the university some maintenance bills.

Should a University Supply Dormitories?

Opinion is still divided today, as it has been since the fourteenth century, on the question of how best to serve the needs of this special client, the student. There are still those who believe that the university should offer only intellectual education, permitting students to live in fraternities, apartments, rented rooms or wherever they may wish. There are others who believe equally strongly that a college or university is responsible for the total training of an individual, including social and personal education, and must provide a residential system. Traditionally, the first point of view has been held by educators at universities, the latter by teachers at colleges.

Because of the complexity of individuals they house and the range of conditions they must meet, systems of residence have not always been successful. Dormitories built by colleges in the eighteenth and early nineteenth century were especially inadequate as regards crowding, ventilation, illumination, heating, dampness, noise, fire-protection and furnishings.

No dormitories were built at M.I.T. or the Johns Hopkins, and while Cornell was forced by its rural location to provide residences, Harvard saw no additional dormitories built for undergraduates during a large period of Eliot's long presidency between 1871 and 1909.

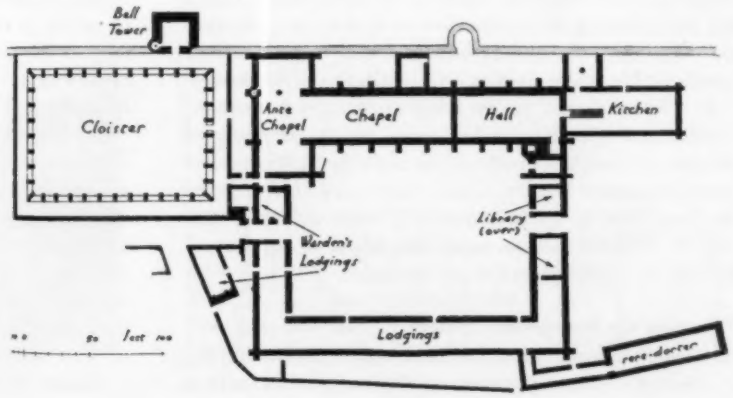
This important detour from the older English collegiate practice was made at universities where educators emulated German and other continental universities. In Germany, universities provided only lecture halls, libraries, laboratories and a main hall suitable for holding ceremonies. Students attending a German university obtained their own lodging and board. Such was the respect for the product graduated by German universities that many educators in America attempted to introduce university organization by either beginning new institutions such as the Johns Hopkins or superimposing university structure upon the colleges, as was done at Harvard. Many remnants of the system are still visible, particularly at urban universities, such as New York University, and graduate schools, such as that at Michigan, as well as in technological institutes, such as M.I.T., which has not yet fully converted to the residential system for undergraduates.

Aligned against all their arguments are those educators who believe that higher education should continue the English collegiate tradition of being concerned with educating the whole man. They conceive that the primary objective of the residential system is to assist the institution in providing a better educational program; housing students is a secondary aim. American history is full of eminent men who supported this belief: all the early college educators, Jefferson, McCosh, Porter, Abbot Lawrence Lowell who developed the brilliant scheme for the Houses at Harvard, Woodrow Wilson and Andrew Fleming West who together helped shape the residential pattern at Princeton, and Compton and Killian who were instrumental in modifying the pattern for use at M.I.T.

Their belief in the educational effectiveness of a good residential system rests on one fact: intellectual life at those institutions possessing good residential systems is more vigorous than at those institutions where they are lacking. List the top institutions in the country on the basis of educational worth; each has physical accommodations that promote active common life. In some cases, the residential system may be supplemented by a favorable residential neighborhood, or by fraternities, but the heart of the common life lies in the residential system.

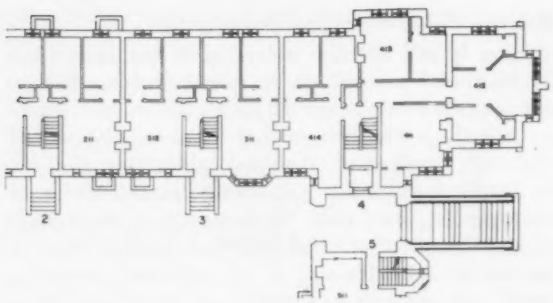
To sum up, there are five major reasons for supporting the idea of having good residential systems:

1. *The absence of a residential system may be one factor in lowering academic performance.* A striking instance of this occurred at a university in a large Middle Western city which had for a long time enjoyed high academic attainment by students who resided in houses near the campus. In the period around 1918 when good rooms were still available in private houses in the neighborhood, the absence of a dormitory system was not serious. But when, after the depression, the neighborhood became increasingly less residential, the university could no longer easily attract young men and especially young women from areas lying outside the metropolitan limits.



"Student needs do not change substantially from generation to generation, and it is important therefore to build upon a plan that is enduring, whether the actual building is considered temporary or not. For this the excellent traditions at Oxford, where New College dormitories date from about 1400, are still worth studying."





Cuyler Hall, Princeton University, a "good example of what may be done"

2. *Still another result of the absence of a good residential system is divisionism among students.* The dormitory is democratic, embracing everyone; its substitutes tend to separate people according to intellectual interest in studies, social position and friendships, economic advantage, religion or race.

3. *Adequately planned residential systems foster life in common, with desirable educational effects.* All a student really learns he gets by the active operation of his own intellect. Here his environment, including his fellows and place of residence, are important. If he is overly specialized, as many students are, he needs contact with a community of interests. He needs to be provoked to think on many subjects, exchanging views, acquiring a corporate spirit of mutual inspiration, liberality of thought, breadth of view, and even some training in responsible citizenship.

4. *It also decreases emphasis upon certain other aspects of college life.* I like to think that the downfall of Harvard's early twentieth century preeminence in football — so greatly missed by Harvard graduates — is in some part due to the enormous success of the thoroughly praise-worthy house system, begun tentatively about 1929 and fully in operation now. That house system was largely developed by a great educator, Abbott Lawrence Lowell, and it was he who, to my knowledge, first revealed that the increasing emphasis on mass spectator sports — so well emphasized by the building of the huge Harvard stadium shortly after the turn of the century — was due in large measure to the fact that they then provided the only means for displaying the corporate spirit of the institution. Lacking any common life in the elective system of education and residence, the undergraduate found in the football spectacle his major evidence of institutional solidarity.

5. *The residential system which encourages a common, institutional life may realize some incidental financial benefits.* It builds identifications with institutions that result in alumni loyalty. Clark University at Worcester is often cited as an instance of a non-residential university, which failed to enlist the financial support of alumni in retaining its former eminence.

Planning the Residential System

At a minimal level, much can be accomplished by having a series of separate dormitories, in combination with a student union or dining hall for general use. This plan was adapted at many older universities such as Harvard, where, shortly after the Civil War, Memorial Hall served as dining hall for students housed in many separate dormitories and private residences. Where the institution is large, the disadvantages of this system are obvious.

Within dormitories, architects may adopt several types of circulation. Standards are the corridors, either single or double loaded, served by either staircases or elevators. These have the usual advantages.

A plan not used recently but of the oldest merit should be recalled, the multiple-entry system. Traditional ways of using it seem to involve additional expense and to consume more ground area than is normally available; but this plan has not had the study it deserves. Among the advantages obtainable in the multi-entry system are these:

1. *reduction of corridor traffic;*

2. *division of the plan into small units capable of producing better scale, easier relation to irregular sites;*

3. *more privacy;*

4. *greater variety;*

5. *division of dormitory into smaller units thereby encouraging identification with entry and greater responsibility for protecting and caring for property;*

6. *protection against mass assembly and riots;*

7. *better light and acoustical insulation;*

8. *reduction of structural bays;*

9. *improved fire protection.*

There are some disadvantages in the need for additional staircases, particularly where a second means of egress is required, but the plan needs to be studied further by modern architects. Particularly happy older applications exist in dormitories at Harvard, Princeton, Haverford, Yale and Trinity College.

Rooms within dormitories have tended recently to be bedroom-studies, all alike, intended either for single or double occupancy. It is questionable in many cases whether equal space might not be arranged in a series of suites consisting of common living room-studies with as many as four private or double bedrooms nearby. The houses at Harvard and the Pyne Dormitory and Cuyler Hall at Princeton offer good examples of what may be done.

Above all architects must realize that dormitories



Walter B. Fleischer

Dunster House, Harvard University

are less subject to obsolescence than many other types of building. Massachusetts Hall at Harvard is still in partial use as a dormitory, though it was built in 1718. Student needs do not change substantially from generation to generation, and it is important therefore to build upon a plan that is enduring, whether the actual building is considered temporary or not. For this the excellent traditions at Oxford, where New College dormitories date from about 1400, are still worth studying.

There are, however, some modern needs generally inadequately provided for in dormitories. Some institutions run summer schools and conferences, and for them air conditioned dormitories may be useful. Transportation facilities are often overlooked, particularly provisions for bicycles and automobiles. Curiously some architects have forgotten that books and their storage are major items in student rooms. Recently, students have found increasingly useful an area fitted as a laundry and another where kitchen facilities are available. There are other service machines that students attract: particularly hard to place unless specific provisions have been made are the various dispensaries of coke, candy and cigarettes which clutter too many hallways. Contact with home and the town is important, and adequate provisions should be made for telephones and mail delivery. Also in the perimeter of the dormitory students need some kind of private area, well landscaped, where the Spring pastime of sunbathing can be conducted with less disturbance to the general aspect of the campus.

But more important than the dormitories alone is the residential system as a whole where dormitories are combined with adequate dining rooms, libraries, common rooms and sports areas. The best of the systems so arranged are to be found in the Houses at Harvard, which are based upon the colleges at Oxford and Cambridge. Approximations of the system exist at Yale, and other institutions; notably California at Berkeley, M.I.T.; and many women's colleges have similar systems. The basic idea contained therein is to form a complete, self-sustaining residential complex. Several dormitory wings are arranged around courts from which multiple entries open. Within the dormitories are suites for students, residences for tutors, a master and his family and studies for non-resident faculty members. Nearby are kitchens, dining halls, libraries, a common room with magazines and exhibits of painting, and game rooms. Frequently, as at Adams House at Harvard, old buildings are easily incorporated into the new houses.

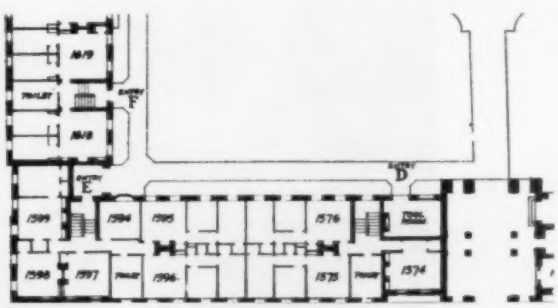
Even in the house system, with all its advantages to education, there have been many recent concessions to lower standards of living, and it's generally conceded that the new house, soon to be erected at Harvard, will not provide the degree of elegance obtained twenty-five years ago when Lowell and Eliot Houses were built, or the Graduate College at Princeton.

Three-fold Purpose

Many educators today recognize a three-fold purpose in higher education; to lead young people in attaining competence in intellectual affairs; to develop personal character and social responsibility; and to aid in forming patterns of behavior, thought and imagination which will best foster living happily and generously. Towards these ends the formal curriculum and its methods of education by means of lectures, seminars, conferences, research and theses, contribute. But common life, especially in the residential system, is regarded as playing an enormous role.

The architect's plan for a dormitory must, in the long run, help the university to teach self-respect and respect for the rights, beliefs and habits of other men; it must help to enlarge the capacity to understand strange and opposing points of view, customs and preferences; and to foster in students the kinds of decorum expected in the manners, dress and speech of educated men.





Timothy Dwight College, Yale University, one of the "house" system dormitories with many entries and small student groups



MEN'S DORMITORY WITH EXTRA-SIZE SOCIAL ROOMS

DORMITORY HOUSES 114 men, mostly in double rooms. There are six living-study rooms, one for every 17 to 20 students. Corridors are narrow (3 ft 6 in.) with recesses serving four rooms each in order to cut down apparent length of corridor and assist somewhat in acoustical problems. Typical bedroom has built-in closets and bureaus, book shelf and desks. On the ground floor there are commons rooms which are to serve other students besides those in this building, the campus needing more social space: a large lounge with separate parlors, table tennis room and kitchenette. Outdoor space on adjacent terrace will considerably extend the social areas in seasonable weather. Storage space is exceptionally large, as students are in school six months, away working the other six. ***Corry Hall, Antioch College, Yellow Springs, Ohio. Skidmore, Owings & Merrill, Architects.***

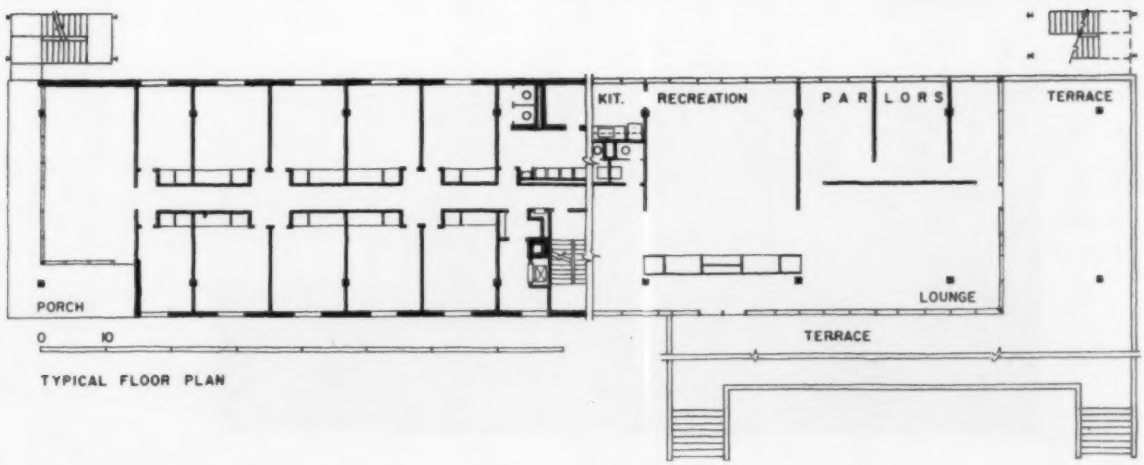


Hedrich-Blessing





Technical Data: lift-slab, Youtz-Slick system. Square columns built up of two 8-by-8-in. steel angles filled with concrete. Exterior walls, salmon colored brick with lightweight concrete block backup, furred and plastered. Windows in bedrooms are double hung aluminum, with precast concrete spandrel below. Edges of concrete floor and roof slabs are exposed flush with face of brick in-filled panels.



TYPICAL FLOOR PLAN



THREE DORMITORY BUILDINGS WITH CLASSROOM FLOORS

To MEET an urgent need for on-campus living quarters and classrooms Rutgers has combined the two in three new buildings. The group also includes a student lounge building, which is calculated to focus social life in this new section of the campus. "The architects and the University," say the architects, "approached the many problems of planning with the basic concept that today's student, no matter at what level, is a social being and that he functions best, academically, physically and socially, when he feels at home." The site, a narrow, steeply sloping strip along the Raritan River, made it possible to keep classroom and dormitory circulation at different levels. ***Dormitory and Classroom Group, Rutgers University, New Brunswick, N. J. Kelly & Gruzen, Architects; Martin L. Beck, associate in charge.***

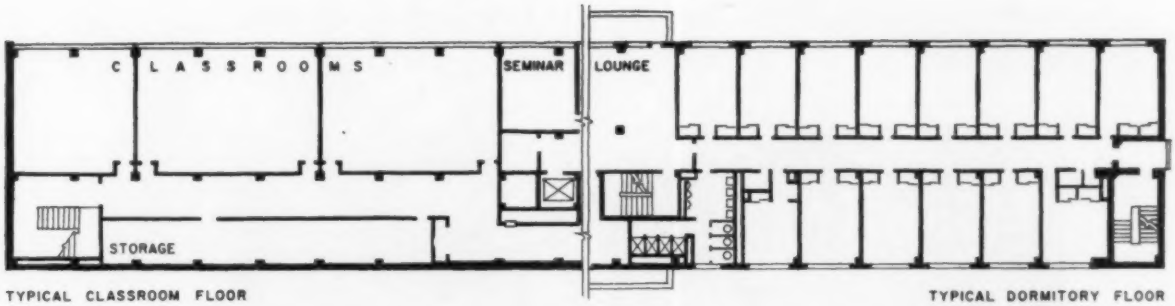


F. J. Higgins



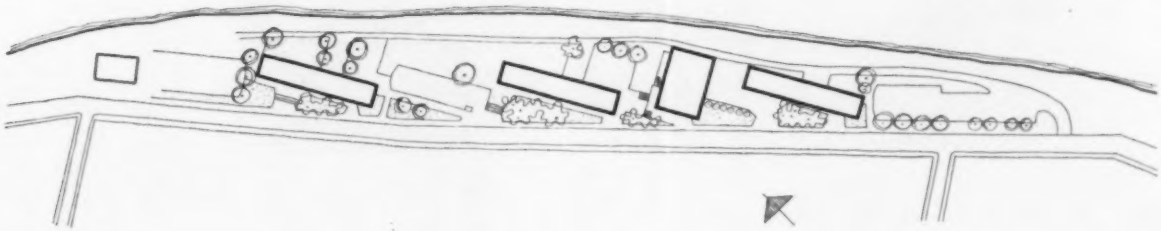


Technical Data: Construction is fire-proofed steel frame, concrete floors, with cavity-type exterior walls, with brick colors to complement those of other campus buildings. Cost of the buildings: $4,000,000. ***Weiskopf & Pickworth, Structural Engineers; Mongitore & Moesel, Mechanical Engineers; Clarke & Rapuano, Landscape Architects.***



TYPICAL CLASSROOM FLOOR

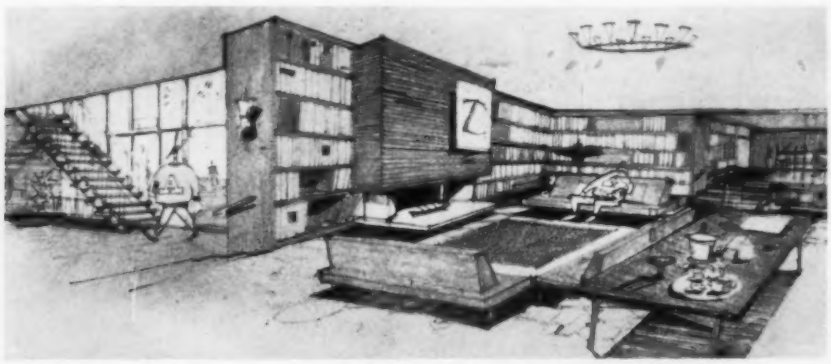
TYPICAL DORMITORY FLOOR



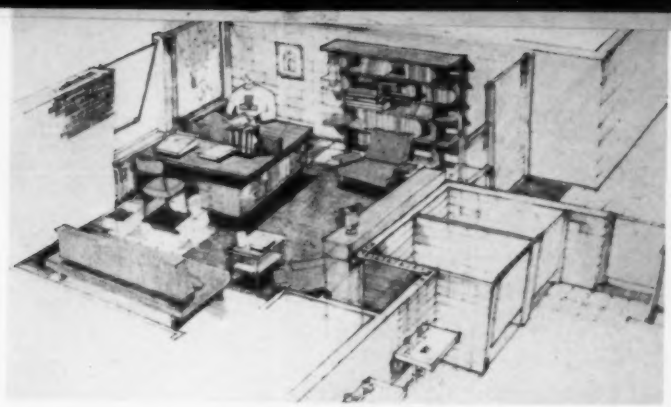


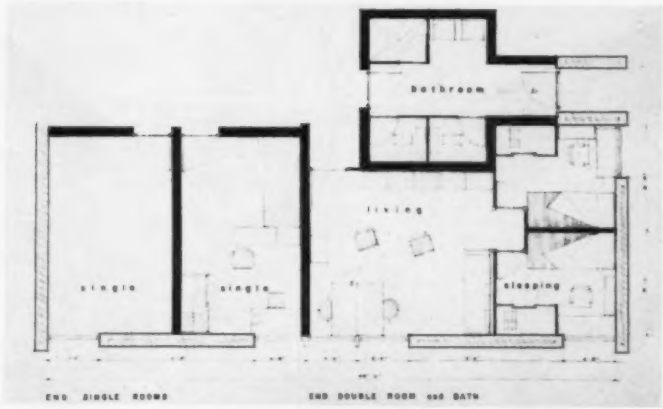
PRIVATE SCHOOL DORMITORY: HOUSEMASTER IDEOLOGY

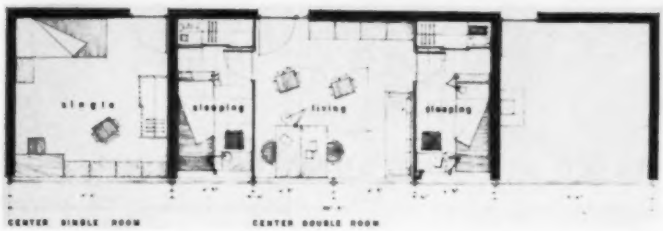
A HAPPY EXAMPLE of architectural thinking applied anew to an old problem, this dormitory scheme grew out of an intense study of such questions as: How should private school boys live? How many together? How many per housemaster? How about privacy for housemasters and their families? The final solution shown here was officially Scheme F. It both joins and separates houses for two housemasters and families with/from dormitory housing for five different groups of eight boys each. Architects and faculty committee put in a year and a half of study, including observation of a full-scale mock-up of students' room, expecting this scheme to be a prototype for others at Phillips. ***Abbot Stevens Hall, Phillips Academy, Andover, Mass.; The Architects Collaborative, Architects.***

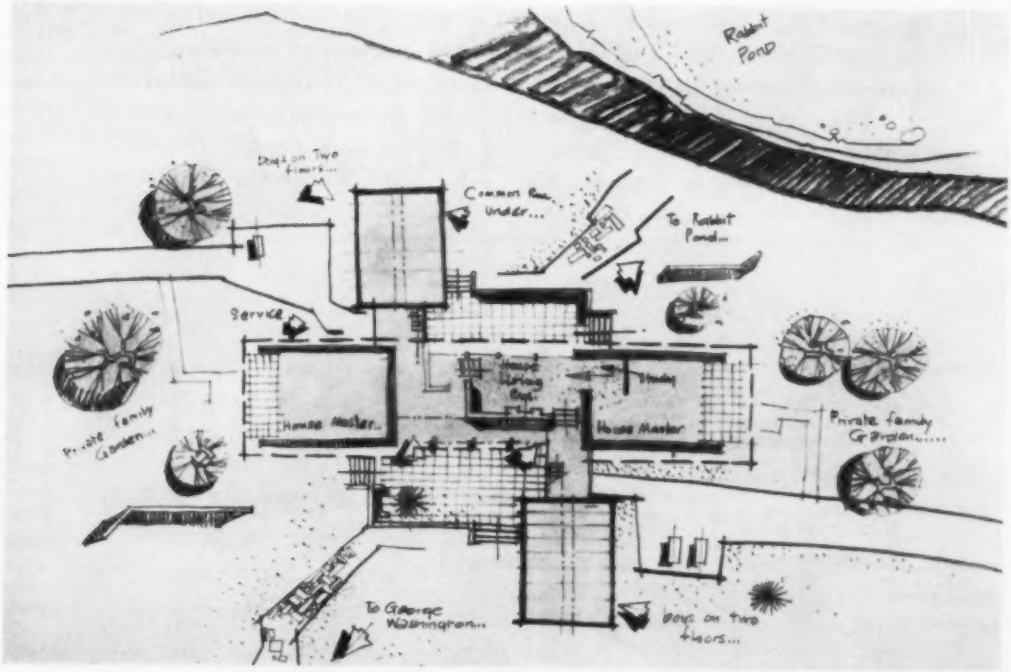


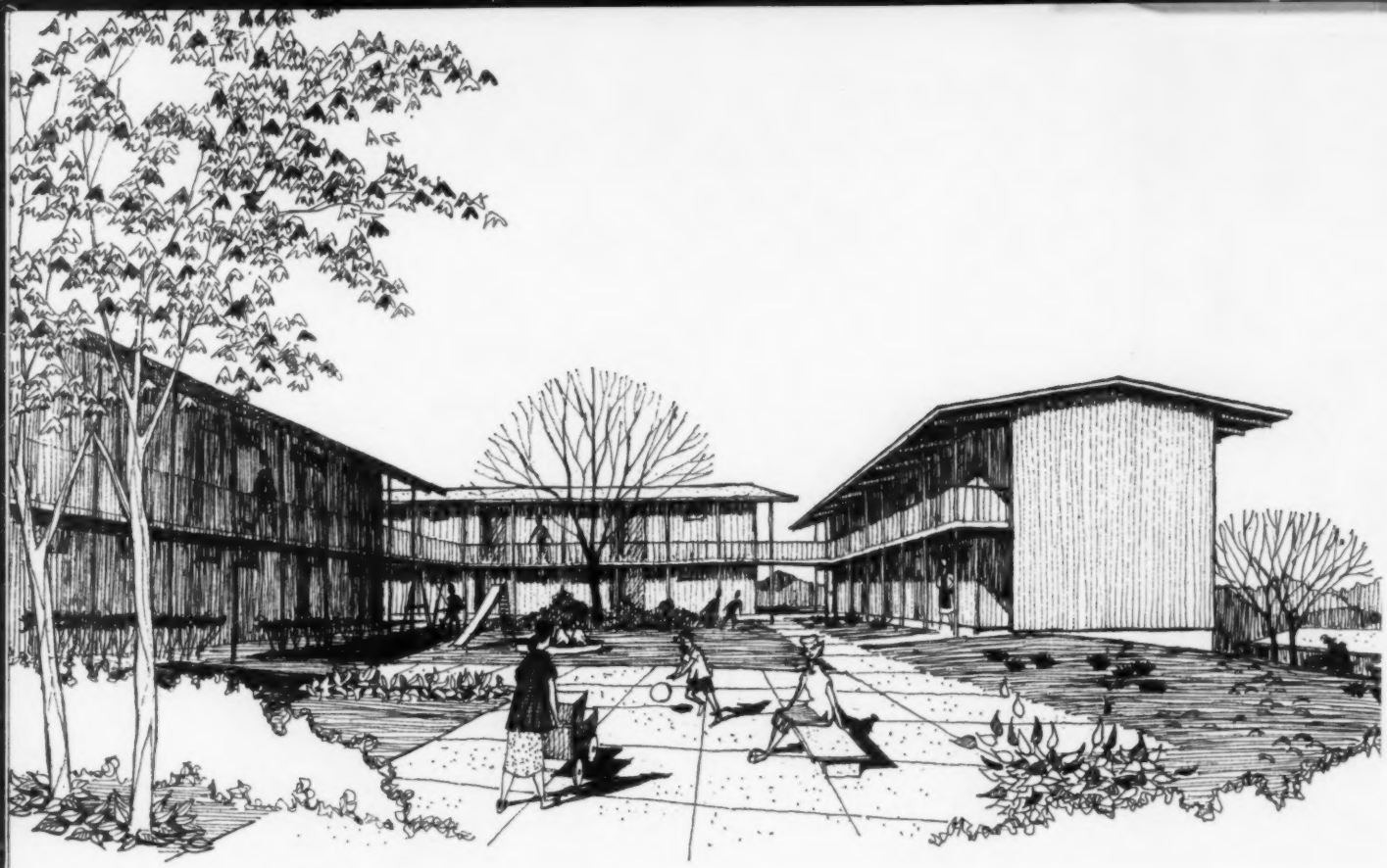





bathroom
living
single
single
sleeping
END SINGLE ROOMS
END DOUBLE ROOM and BATH


single
sleeping
living
sleeping
CENTER SINGLE ROOM
CENTER DOUBLE ROOM


Rabbit Pond
Duplex on Two floors...
Common Room Under...
To Rabbit Pond...
Service
House Master
House Master
Private family Garden...
Private family Garden...
To George Washington...
Boys on two floors...



VARIED STUDENT QUARTERS IN VILLAGE CONCEPT

ANOTHER TITLE MIGHT BE: "New-Campus Housing for Automobile Age." The architect, planning a new campus, has grouped his dormitory facilities in small "villages," which are designed for walking, not driving, through. They are designed also to promote friendly, cooperative living by students ranging from young single men and girls to married families with children, all preparing for missionary work. The group living experience can, it is thought, contribute to the educational preparation and this architectural solution is intended to enhance that experience. Thus accommodations range from dormitory-type bedrooms, to two-bedroom apartments and duplex units. Designs are residential in character; landscaping is heavily stressed — patios, play yards, terraces, paths, views. ***Golden Gate Baptist Theological Seminary, Marin County, Cal. John Carl Warnecke, Architect.***

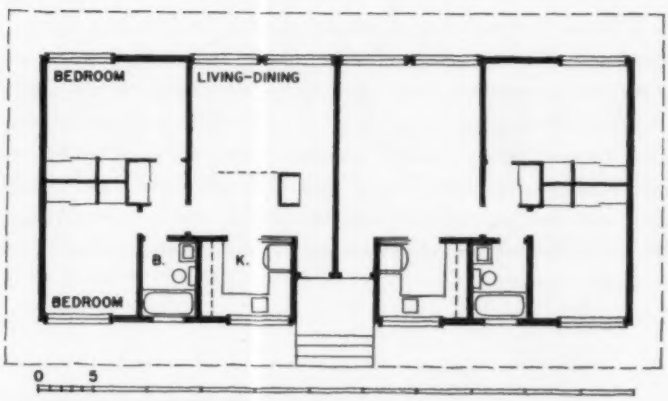




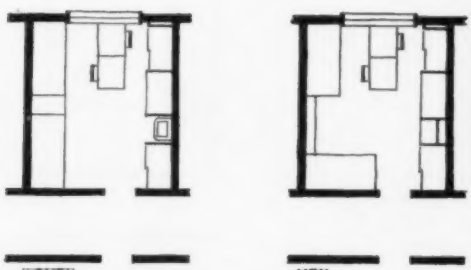




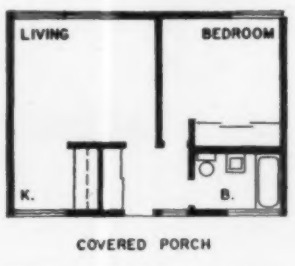
Technical Data: residence buildings will have concrete floor slab on grade, with wood framing finished with wood or gypsum board. Built-up composition roofing over wood frame; sloping eaves and warm tile were used to avoid the dullness of flat colorless roofing. This residential construction saves substantially compared to large buildings. ***Lawrence Livingston, Jr., Planning Consultant; Lawrence Halprin, Landscape Architect; John Blume, Structural Engineer; G. M. Simonson, Mechanical and Electrical Engineer.***



TYPICAL DUPLEX PLAN

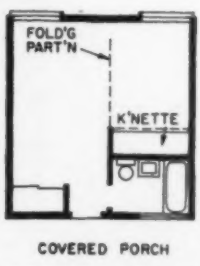


TYPICAL DORMITORY ROOMS



COVERED PORCH

TYPICAL UNIT



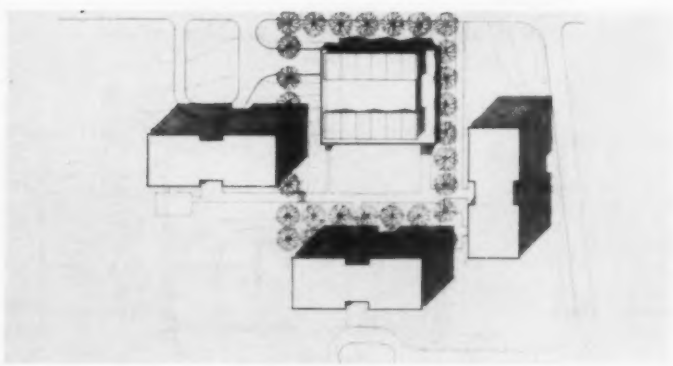
COVERED PORCH

TYPICAL STUDIO

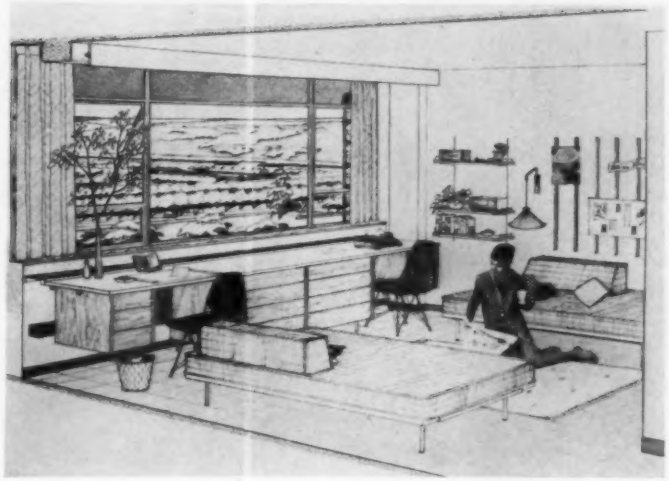


LARGE BUILDINGS PLANNED FOR "HOUSE" SYSTEM

THIS UNIVERSITY'S dormitory program operated on a "house" system, in which each "house" comprising about 80 students has its own name, elected officers, social and athletic programs. Budgetary considerations, however, necessitated large buildings; site economy was also a factor, as additional land must be acquired for a $10 million dormitory program. The architects' solution consists of a basic two-story "house" within a large building. Each one has glass walled entrance floor with a large social area, central mail desk and office, head resident's apartment, study and meeting rooms and snack kitchen. ***Dormitory Group, University of Missouri, Columbia, Mo., Hellmuth, Obata & Kassabaum, Inc., Architects.***

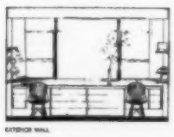


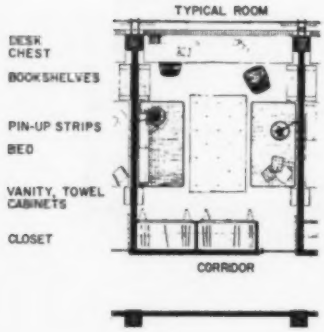


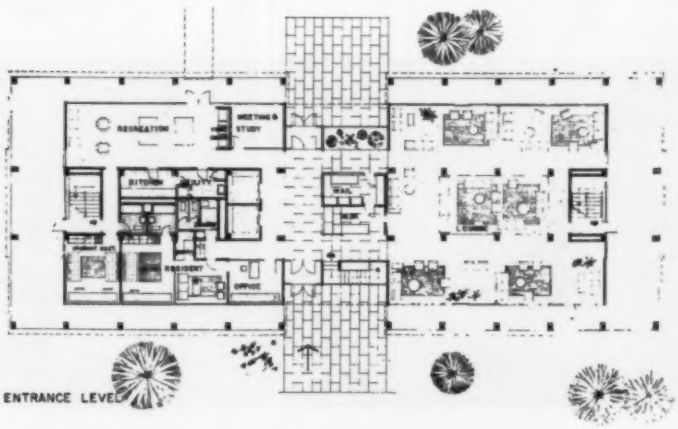


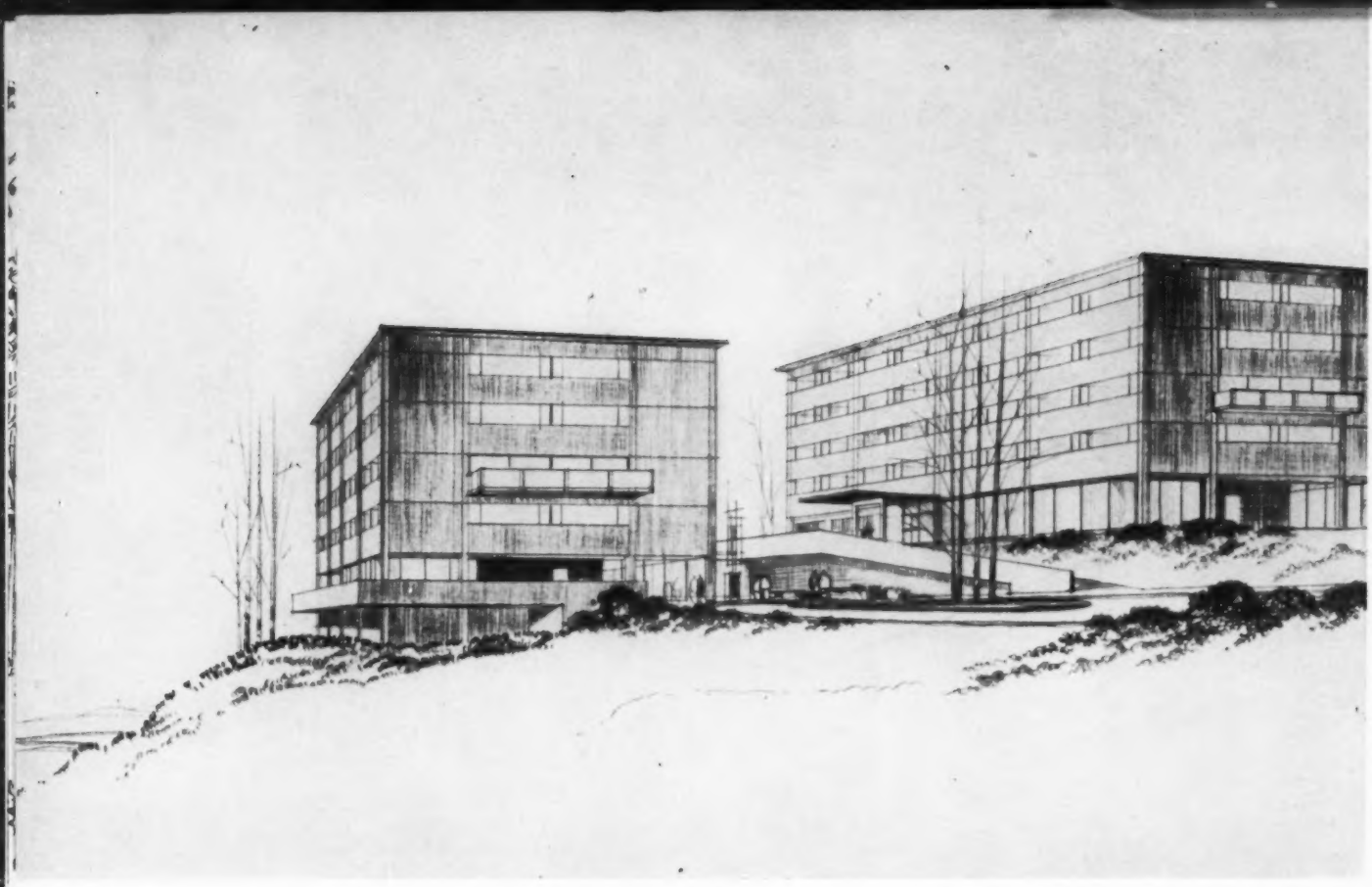


TYPICAL PLAN (LOUNGE ON FLOORS 2,4,6,8)



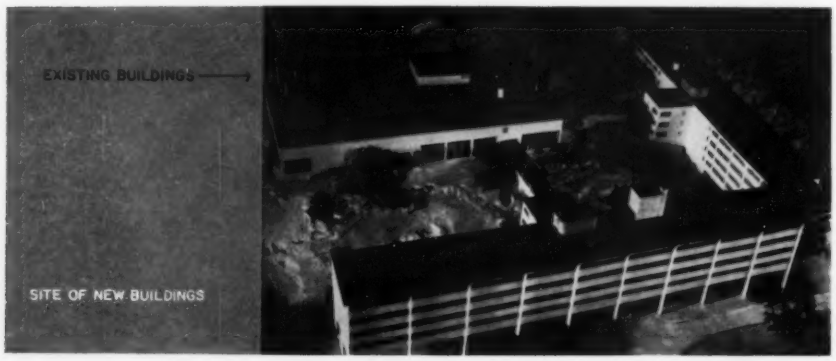


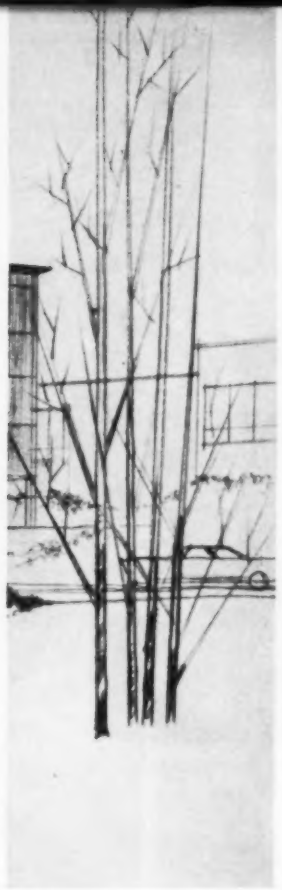




CROWDING PUTS DORMITORIES ON DIFFICULT SITES

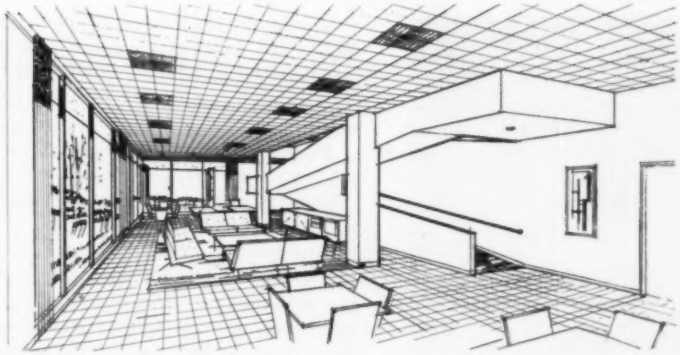
THE PRESSING NEED for dormitory accommodations here forced the development of a steep hillside site, and the necessities thus imposed largely determined the design that resulted. The program called for buildings for 100 occupants each, with enclosed access to each other and to the dining halls. The temperature in this locality sometimes goes as low as 30 degrees below zero; hence the insistence on enclosure. Moreover, ramps were requested, rather than stairs, wherever at all feasible. As the planning developed it appeared that occupancy per building of 144, instead of 100, would be much more economical, and it was considered that supervision and services would not generally change because of the added number. ***Residence Buildings for Women, State College of Washington, Pullman, Wash. Paul Thiry, Architect.***

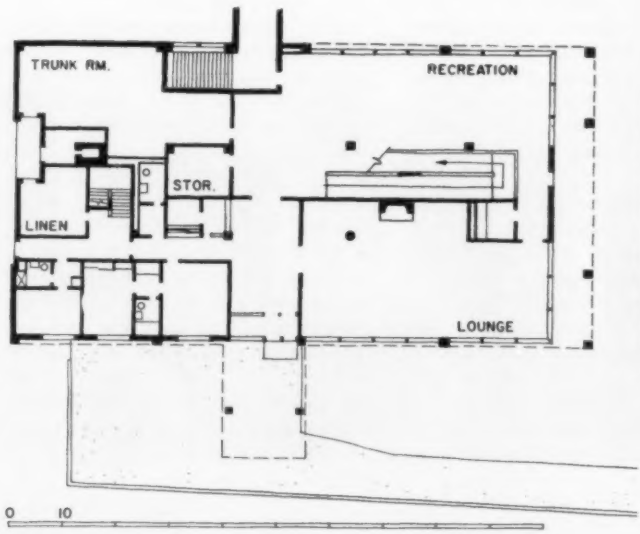


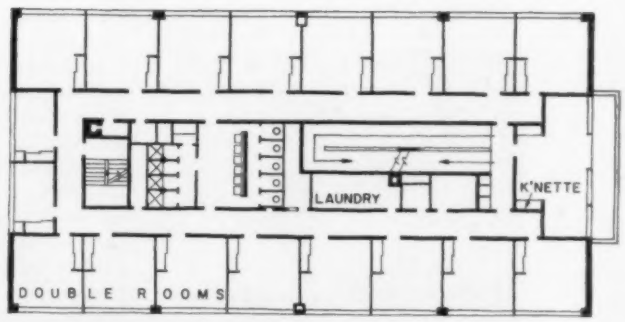




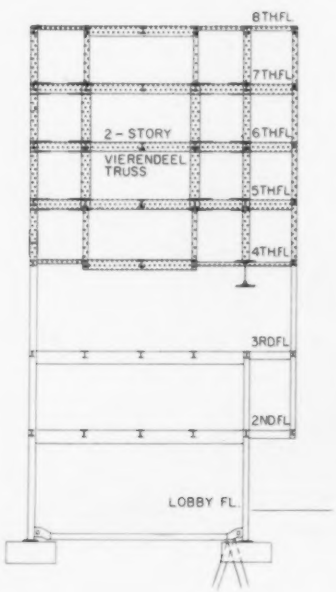
Technical Data: construction will be in monolithic concrete, flat slab system. Sash and frames, doors and frames, will be of aluminum. Interior partitions of gypsum lath and plaster. Floors will be mostly asphalt tile; ceramic tile in baths. Interior doors and woodwork will be of birch. Heating from an existing central steam plant, each study room convector to be thermostatically controlled.

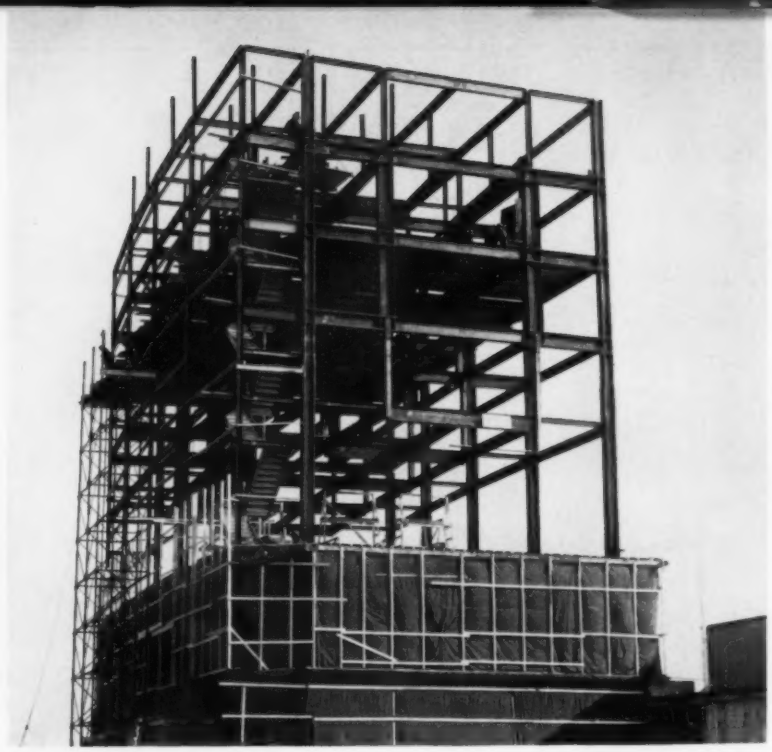






THIRD FLOOR PLAN





Triple Chord Vierendeel Trusses Carry Five Floors



Felix J. Nessikian

Control Tower, Logan International Airport, Boston, Mass. Architects: Samuel Glaser Associates; Structural Engineers: Goldberg, LeMessurier & Associates

BEHIND THE SLEEK GLASS and aluminum face of the recently completed control tower at Boston's Logan International Airport lies a complex structural frame in which triple chord Vierendeel trusses — believed to be the first of their kind — support five of the building's eight floors.

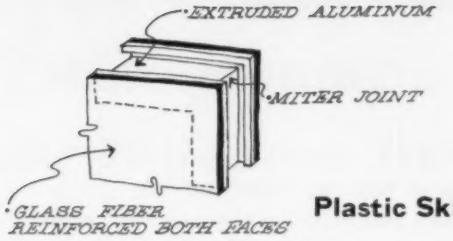
Outward manifestations of the inner workings of the Vierendeel frame include a roadway running directly beneath the building; two floors (the second and third) completely free of columns; and an extra floor squeezed into the total height limitation. Of these, the first two were architectural requirements dictated by the use of the building — and by its location squarely across the main access road to the airport. The third was a bonus made possible by the reduction in floor depth which resulted from the use of a truss frame instead of the clear-span framing scheme first considered.

As finally constructed, the building's 42 ft bays are spanned on the second and third floors by 36 in. wide flange girders, while the upper five floors form an inter-acting structural frame centered in the Vierendeel trusses. The three chord members in each truss are located symmetrically about the sixth floor, with the eighth floor and penthouse supported on columns above and the fourth floor suspended below the truss. Both floors therefore participate in the frame action, the eighth floor by providing a compression strut at the top, and the fourth floor by acting as a tension tie between the lower extensions of the vertical members of the five trusses.

The trusses themselves are made up of 21-ft center panels flanked by 10 ft-6 in. side panels, plus a 9-ft cantilever at one end. Because of the greater depth given by using the girders in three floors, the trusses could be fabricated from relatively small members. Chord members for the end panels were built up from plates; those for the center panels are 21-in. wide flange sections.

The structure is supported on foundations which were laid when the original passenger facilities at the airport were constructed. Since the existing pile clusters and heavy pile caps were designed to support only vertical loads, with horizontal loads to be taken by an assumed adjoining structure — which did not exist at the time the control tower was built — provision had to be made for carrying lateral wind forces to the ground. This was done by driving seven pairs of battered steel piles between the existing foundations, and using a truss-like subgrade frame to transfer horizontal reactions from the building columns to the new battered piles.

(More Roundup on page 224)



Plastic Skin, Aluminum Grid Form Translucent Wall Panels

The new *Kalwall* curtain wall panel combines translucency, thermal insulation and structural efficiency in a self-supporting prefabricated "sandwich" unit that weighs only one-seventh as much as an equivalent metal panel. Faced with an exterior skin of reinforced polyester glass fiber, the panels contain an interior grid of aluminum I-beam extrusions which not only acts as a load-bearing component but also produces a solid metal edge banding that can be incorporated into a flush, internal joint system for maximum rigidity in actual installations, or used to provide easy accommodation for door and window frames.

The glass fiber skin itself is said to be stronger than metal of equal weight, with an average tensile strength of 10,000 to 12,000 psi and a weight of approximately 8 ounces per sq ft. In addition, it is highly resistant to shattering, crazing, fading, sharp blows and vibrations, and withstands temperatures ranging from minus 20 to plus 200 degrees F with little or no change in its physical properties. Although not classified as a fireproof material, the skin is fire-resistant and can not be ignited by cinders or matches falling on its surface. Extensive tests have shown that the panels also have excellent acoustical properties, and a heat transmission factor low enough to eliminate any problem of condensation on the inside face. The sealed core prevents condensation from forming inside the grid.

The panels, whose unique properties make them suitable for both exterior and interior walls, as well as roof surfaces, come in four modular sizes and six colors. Standard panels are $1\frac{9}{16}$ or $2\frac{3}{4}$ inches thick, 4 feet wide and 8, 10, 12 or 20 feet high, with non-standard sizes supplied on special request. Colors include white, crystal, green, blue, rose and yellow. *Kalwall Corp., Manchester, N. H.*





Student Housing Units Feature Low Cost Prefab Curtain Walls

Collaboration between the manufacturers of *Vampco* aluminum window walls and *Hasko-Struct* laminated plastic sandwich panels produced the sleek, colorful curtain walls used in the low cost housing units for married students recently completed at Michigan State University.

The buildings are of masonry construction, faced front and back with the prefabricated wall sections. Front window walls (below right) are one story high, and include window and door sections as well as solid panels. On the rear of the buildings (below left), solid and window wall sections, 16 ft high, curtain the full two stories.

The *Hasko-Struct* panels themselves consist of polyester resin impregnated glass fiber cloth faces, bonded to cement asbestos interbands and expanded polystyrene cores. Their $1\frac{1}{4}$ in. thickness is said to give an insulating value equal to that of standard brick masonry construction. The wall sections are fabricated from aluminum extrusions, with window and door frames built in. According to the manufacturer, *Vampco* window walls are so designed that adjacent panels can be joined in a matter of minutes. Aluminum window walls: *Valley Metal Products Co., Plainwell, Michigan.* Plastic sandwich panels: *Haskelite Manufacturing Corp., Grand Rapids, Michigan.*

(More Products on page 236)

A 4-man crew installed this two-story rear wall in one day; single-story front wall sections were placed by a 2-man crew





LITERATURE

Catalogs • Brochures • Booklets



ALUMINUM IN SCHOOL CONSTRUCTION

As a result of a nationwide survey among school architects and building supply manufacturers, Kaiser Aluminum's Technical Publications Department has published a 64-page report on the increasing role of aluminum in school construction. The first of three sections in the report deals with the importance of economy in planning new schools; the second illustrates typical uses of aluminum in schools throughout the country; while the third discusses specific application of the material for walls and partitions, sheet metal work, doors and windows, ceilings and lighting, piping, storage units, teaching aids and educational equipment. The booklet is extensively illustrated throughout, both with photographs and with drawings such as that shown at left. *Technical Editor, Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago 11, Ill.**

Food Serving Equipment

. . . For Schools, Colleges and Universities contains over 100 photographs and floor plans of elementary schools, junior high and high schools, colleges and universities, together with descriptive information on the newest advances in food serving equipment for schools. 48 pp. *Southern Equipment Co., 4550 Gustine Ave., St. Louis 16, Mo.*

Insulpanel Roof Decking (A.I.A. 19-D)

Describes and gives details for various methods of using *K & M Insulpanel* roof decking in residential and industrial construction. 8 pp. *Keasbey & Mattison Co., Ambler, Pa.**

Smithcraft Fluorescent Units

New 4-page folders and catalog sheets include information on general features, lighting characteristics, mounting, maintenance, accessories, photometric data and specifications for Smithcraft's *Twosome, Civic, Executive* and *Freeway* fluorescent units. *Smithcraft Lighting, Chelsea 50, Mass.**

Manual of Plus Values

Presents list and net prices for 186 basic sizes and thicknesses of insulation made by the *Union Asbestos & Rubber Co., 1111 West Perry St., Bloomington, Ill.**

Plumbing Fixtures

(A.I.A. 29-H) Presents complete line of bathroom, powder room and kitchen plumbing fixtures, with photographs, drawings and specifications. 52 pp. *Sales Dept., Ingersoll-Humphryes Div., Borg-Warner Corp., Mansfield, Ohio.*

Watertight Masonry

Folder "O.M."-8A discusses problems involved in the design and specification of watertight masonry, and outlines six considerations in designing tight masonry walls. 6 pp. *The Master Builders Co., 7016 Euclid Ave., Cleveland 3, Ohio.**

Steber Lighting Equipment

Condensed Catalog No. CTC-2 includes selection information and prices for complete line of *Steber* lighting equipment. 18 pp. *Steber Manufacturing Co., Broadview, Ill.*

Matico Floor and Wall Tile

Specification Book #789 contains architectural specifications, installation instructions, packaging information, color availability and suggested floor designs for *Matico* floor and wall tile. *Adv. Dept., Mastic Tile Corp. of America, P. O. Box 986, Newburgh, N. Y.**

Steam Specialties

Catalog No. 69 contains complete descriptions, illustrations, dimensions, capacities and prices of Strong steam traps, strainers, separators, flash separators, reducing valves, block steel valves and engine stops. 60 pp. *Strong Steam Specialties Div., Strong, Carlisle & Hammond, 1392 West 3rd St., Cleveland 13, Ohio.*

Semi-Pressure Fans (A.I.A. 30-D-1)

Bulletin 400 describes and illustrates *Aerovent SP-7* semi-pressure fans, with selection data and certified ratings for all models. *Aerovent Fan Co., Inc., Piqua 6, Ohio.*

Designs for Laboratory Living

Describes and illustrates installation of the *Flexlab* voltage distribution system in more than one hundred college laboratories, with complete details of power supplies, methods of distribution within the laboratory and terminal facilities as well as descriptions of the components. *The Standard Electric Time Co., 239 Logan St., Springfield, Mass.**

Armco Steel Buildings (A.I.A. 14-I)

Manual SX-2056 catalogs and presents design information on five basic types of *Armco* steel buildings. 32 pp. *Armco Drainage & Metal Products, Inc., Middletown, Ohio.**

Control Center Manual

Sixteen-page manual contains descriptive and pictorial information on *Square D* control centers, with special attention to planning and specifying. *Square D Co., 4041 N. Richards St., Milwaukee 12, Wisc.*

Styrofoam Construction Details

(A.I.A. 37B) Construction Detail Folder contains 12 scale drawings showing typical applications of *Styrofoam* plastic foam insulation. Accompanying the drawings are information on the sizes and physical properties of the foam, as well as design data and specifications for its use as plaster base or perimeter insulation. *Plastic Sales Dept., Dow Chemical Co., Midland, Mich.**

** Other product information in Sweet's Architectural File, 1956.*

(More Literature on page 258)

How ANEMOSTAT

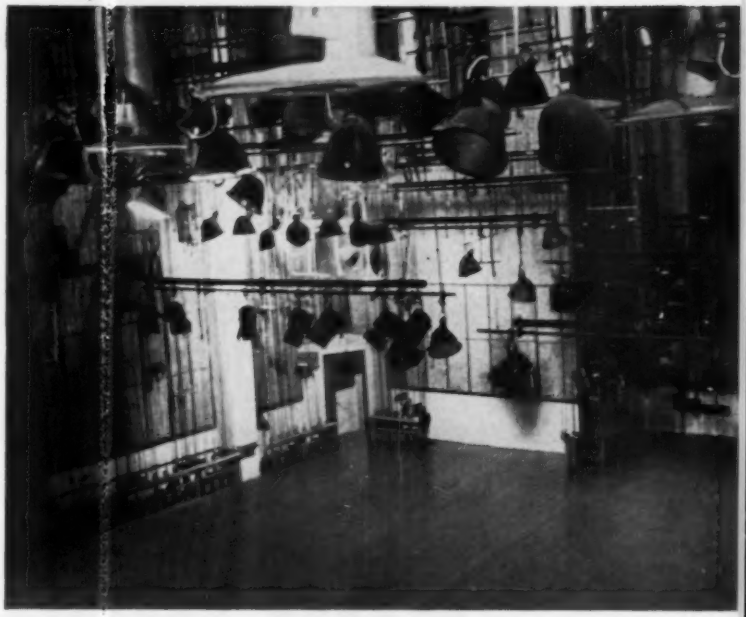
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Anemostat Air Diffusers help do this vital job. They draftlessly diffuse 20,000 cubic feet of cooled air per minute pushed by giant fans through the soundproofed ducts. The two main studios have 32 vertical ducts, ranging in diameter from 18 to 24 inches; of these, 24 are telescopic and can be raised or lowered to suit requirements. The conditioned air, efficiently distributed by Anemostat Air Diffusers, offsets the heat from the tremendous wattage of the lights needed for film-making.

Movie-viewing, as well as movie-making, is aided by Anemostat Air Diffusers. They are installed in hundreds of theatres throughout the country. Anemostat Air Diffusers also provide *true* draftless comfort and uniform air distribution in schools, hospitals, banks and practically all types of commercial and industrial buildings.

One of three *completely air conditioned* sound stages at Production Center, Inc. in New York City.





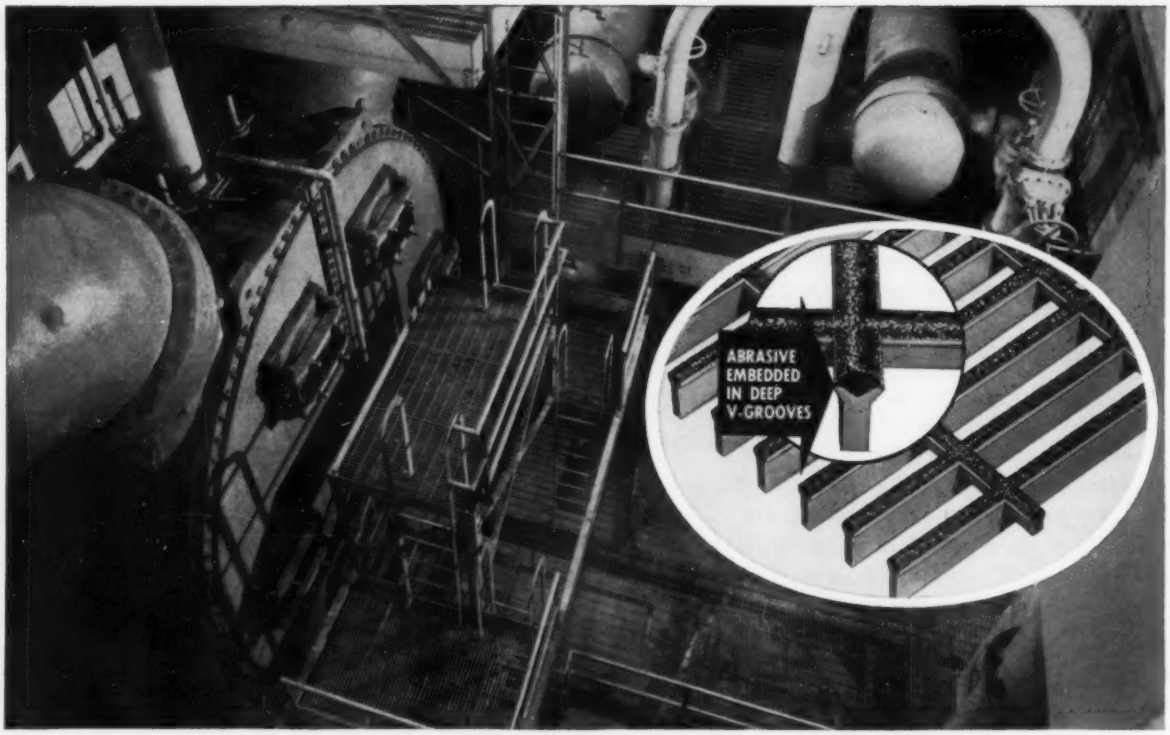
Note the Anemostat Air Diffusers installed on the telescopic ducts.

Joseph B. Klein, Architect
Robert Glenn, Inc., General Contractor
Wolff & Munier, Inc.,
Mechanical Contractors



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USEFUL CURVES AND CURVED SURFACES: 22—Sphere

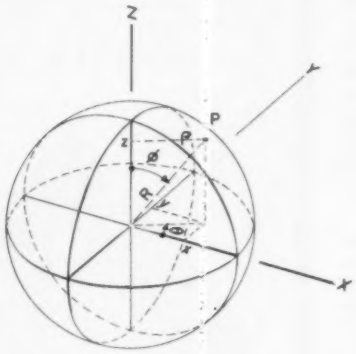
By SEYMOUR HOWARD, *Assistant Professor, Pratt Institute, Architect associated with Huson Jackson and Harold Edelman*

DEFINITION

Every point on the sphere is equidistant from a fixed point called the center. It is the only surface for which this is true. It is also the surface of revolution generated by the rotation of a circle about a diameter. Every section of a sphere is a circle. When the section plane contains the center, the circle is called a great circle or geodesic and has the same radius as the sphere; otherwise the section will be a "little circle" and may have any radius less than that of the sphere and more than zero. Longitude circles (or meridians) on the earth are all great circles; and latitude circles except the equator are little circles.

Every point on a sphere is an umbilical point; i.e. there is no principal direction and no line of curvature (see Sheets 14 and 15). Every geodesic line is a portion of a great circle. The mean curvature is everywhere constant and positive (equaling $1/R$); the sphere is the only closed surface (without a boundary) for which this is true. The Guassian curvature is also everywhere constant and positive (equaling $1/R^2$); and again it is the only closed surface for which this is true.

Of all closed surfaces the sphere contains the maximum possible volume for a given amount of surface.



Equations:

In rectangular coordinates:

$$x^2 + y^2 + z^2 = R^2$$

In cylindrical coordinates:

$$z^2 = R^2 - \rho^2$$

[where $x = \rho \cos \Theta$ and $y = \rho \sin \Theta$]

In spherical coordinates:

$$r = R$$

[where $x = R \sin \phi \cos \Theta$, $y = R \sin \phi \sin \Theta$, $z = R \cos \phi$]

The area of the sphere $= 4\pi R^2 =$ lateral area of circumscribed cylinder.

The volume enclosed $= \frac{4}{3}\pi R^3 = \frac{2}{3}$ volume of circumscribed cylinder.

A lune (sometimes called a gore) is the surface between two great circles passing through the same pair of poles. A spherical wedge is the volume between the planes of these two great circles and the lune.

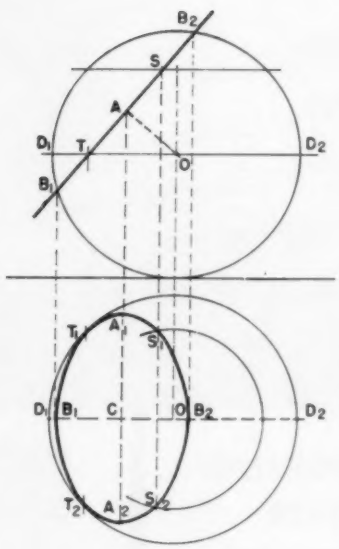


A zone is the surface between any two parallel section planes. The volume is called a segment and equals

$$\frac{1}{6}\pi h\,(3\rho_1^2 + 3\rho_2^2 + h^2)$$

Where h = distance between two planes and ρ_1 and ρ_2 are radii of section circles.





To draw the plan projection of the section of a sphere by any plane normal to the elevation, given the elevation: (Unless the section plane is parallel to that of the plane, the section will be projected as an ellipse.)

1. Draw AO normal to B_1B_2. Draw D_1OD_2 parallel to the plan.

2. Draw the plan below. Project B_1 and B_2 onto D_1OD_2 in the plan. The line joining B_1B_2 is the minor axis. Project A as a line normal to D_1OD_2 on the plan. This lies on the major axis and in plan $A_1C = CA_2 =$ true radius of the little circle, which can be measured as AB from the elevation.

3. With these two axes given, an ellipse can now be drawn by any of the methods shown on Sheet 4. T_1 and T_2 are the points of tangency of the ellipse with the plan. If desired, other points such as S_1 and S_2 can be found by drawing a line through S on the elevation parallel to the plan. The length of this line is the diameter of the little circle through S. Draw this circle on the plan and project S down to S_1 and S_2.

work progresses faster...
costs are lower with

REINFORCED CONCRETE

Lower over-all costs, flexibility of design, and faster work progress are cited by associated architects, Canizaro and Overstreet, as major factors in their choice of reinforced concrete for the new First National Bank Building in Jackson, Mississippi.

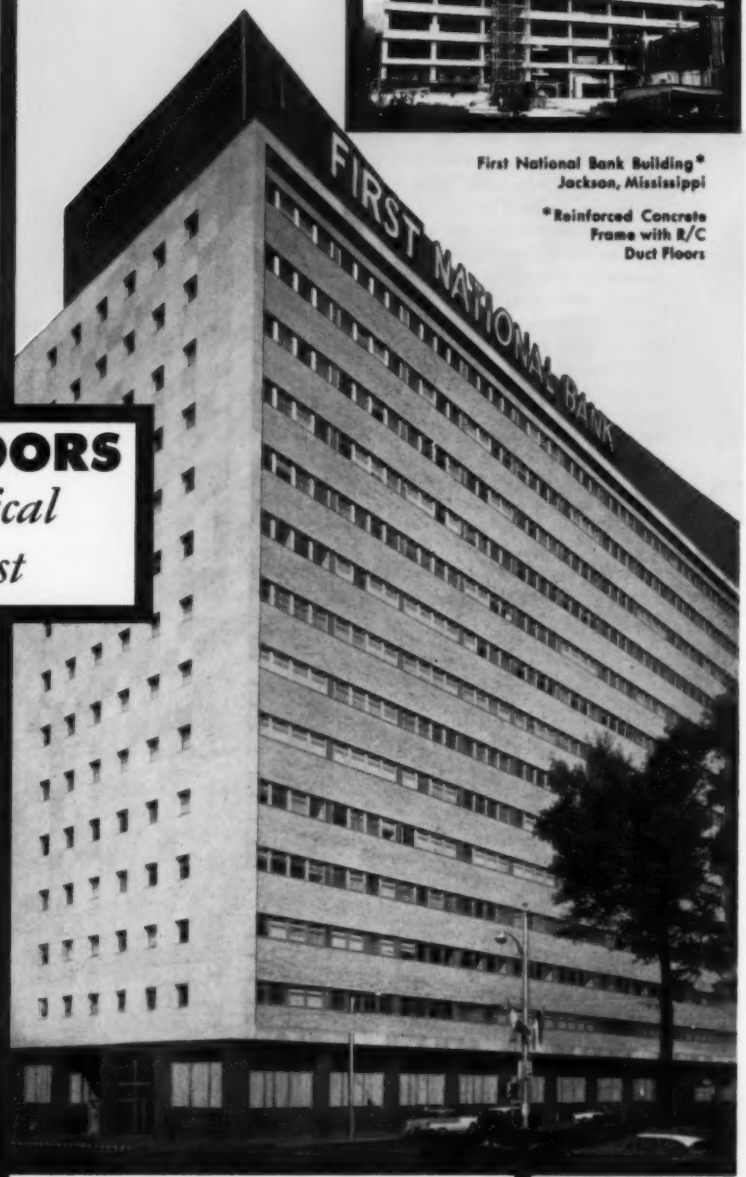
On many other important buildings from coast to coast, reinforced concrete is also providing better structures for less money. It is a flexible medium, inherently firesafe, and highly resistant to wind, shock, and quake. Furthermore, reinforced concrete buildings progress faster because all necessary materials and labor are readily available from local sources.

James T. Canizaro and N. W. Overstreet, Jackson, Mississippi — Associated Architects

Post & Witty, Jackson, Mississippi — Structural Engineers

Southeastern Construction Co., Charlotte, North Carolina — Contractor



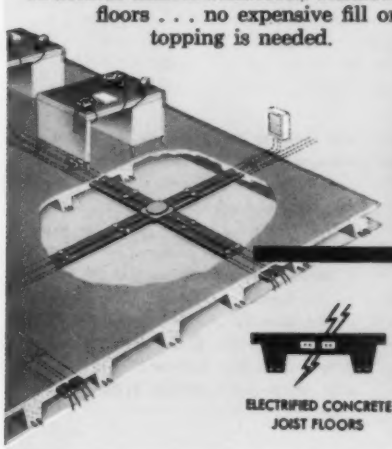


First National Bank Building*
Jackson, Mississippi

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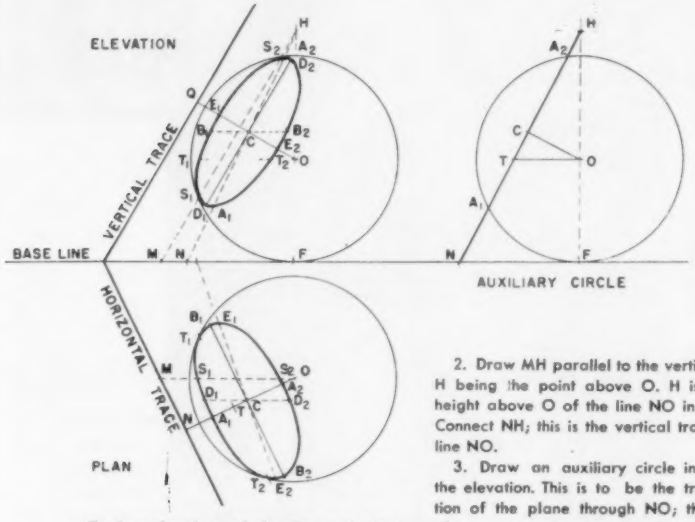
ELECTRIFIED CONCRETE JOIST FLOORS

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USEFUL CURVES AND CURVED SURFACES: 23—Sphere

By SEYMOUR HOWARD, *Assistant Professor, Pratt Institute, Architect associated with Huson Jackson and Harold Edelman*



To draw the plan and elevation projections of the section of a sphere cut by any plane, given the horizontal and vertical traces of the plane on the plan and elevation. (The Base Line is the plane of the plan as seen in elevation and the plane of the elevation as seen in plan.)

1. On the plan, draw ON normal to the horizontal trace. This line represents a plane cutting the sphere in a great circle and cutting the section plane in a straight line. Draw OM parallel to the elevation plane. Project N and M up to the Base Line.

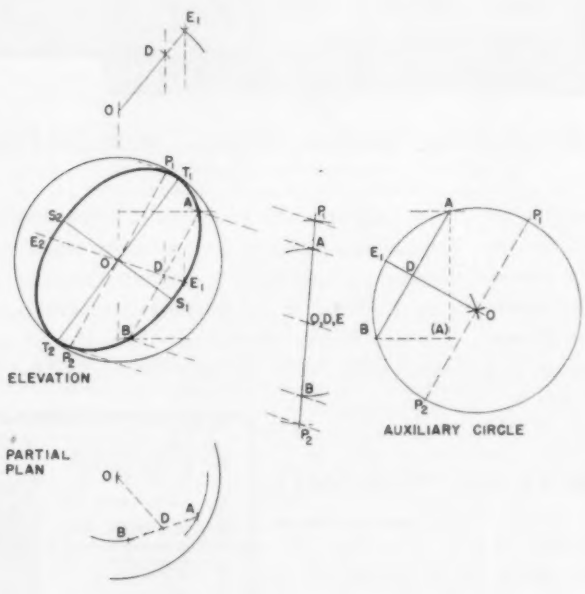
2. Draw MH parallel to the vertical trace, H being the point above O. H is the true height above O of the line NO in the plan. Connect NH; this is the vertical trace of the line NO.

3. Draw an auxiliary circle in line with the elevation. This is to be the true elevation of the plane through NO; the section plane appearing as the line NH. Set FH = FH and NF = true plan length = NO measured on the plan. Join NH: this cuts the circle at A_1 and A_2. Draw OC normal to A_1A_2. C is the center of the little circle which is the required section of the sphere, and is the center of the ellipses in plan and elevation which are the projections of this little circle.

4. Project C back onto NH on the elevation and the plan. The axes of the ellipse in plan lie along NO and a line through C parallel to the horizontal trace. The axes of the ellipse in elevation lie along CQ, normal to the vertical trace and a line through C parallel to the vertical trace.

5. From the auxiliary circle, project A_1 and A_2 onto NH in elevation. These are points on the ellipse in elevation. Project them down to the plan; they are the ends of the minor axis of the ellipse in plan. Draw a line through C parallel to the horizontal trace and measure $CB_1 = CB_2$, equal to the diameter of the little circle, which can be measured from the auxiliary circle as A_1C. B_1 and B_2 are the ends of the major axis of the ellipse in plan. The ellipse can be completed by any convenient method (see Sheet 4). To verify the points of tangency T_1 and T_2, draw OT on the auxiliary circle. Transfer the distance OT onto the plan and draw T_1TT_2 parallel to the horizontal trace.

6. From the plan ellipse the elevation ellipse can be drawn. On the plan, draw a line through C parallel to the Base Line, cutting the plan ellipse at D_1 and D_2. This is the plan projection of the major axis of the ellipse in elevation. Draw a line through C in the elevation, parallel to the vertical trace and project D_1 and D_2 up onto it. These are the ends of the major axis. The length $CD_1 = CD_2$ (in elevation) $= CB_1 = CB_2$ (in plan) and is equal to the true diameter of the little circle. This is the plan projection of the minor axis of the ellipse in elevation. Project E_1 and E_2 up to the elevation; these are the ends of the minor axis. Draw the ellipse. The points of tangency S_1 and S_2 can be checked by projecting S_1 and S_2 on OM up from the plan to the elevation.



Given any two points, A and B, on the elevation of a sphere, to draw the projection of the geodesic (arc of great circle) through them. (This projection will be typically an ellipse.)

1. Draw the chord AB on the elevation. Join the center O to the midpoint D of the chord AB. Draw a line through O parallel to AB. These two lines through O lie on perpendicular diameters of the great circle and therefore lie on conjugate diameters of the ellipse.

2. Draw part of the plan below, showing the portions of the arcs of the little circles on which A and B lie. Project down A and B.

3. From the elevation project horizontal lines through A and B. On one of these lines measure B (A) equal to the true plan length AB. Erect a perpendicular on (A) to A. The hypotenuse of this right triangle is the true length of the chord AB. Draw the circle, of the same radius as the sphere, through A and B. Draw the diameter EDO normal to the chord AB and draw the diameter P_1OP_2 at right angles. (This auxiliary circle is the true plan or elevation of the great circle and gives the true angular length of the geodesic AEB.)

4. With proportional dividers or by measuring along oblique lines, as shown here, find the projected points P_1, P_2 and E on the elevation.

5. OP_1 and OE on the elevation are now conjugate semi-diameters of the ellipse. Use method of Sheet 20 to find the major axis T_1OT_2 and the minor axis S_1OS_2 and draw the ellipse. T_1 and T_2 are of course the points of tangency between the circle and the ellipse, the length of the major axis always being the diameter of the circle.

Architects: VICTOR GRUEN ASSOCIATES • Consulting Engineer: RALPH E. PHILLIPS, Inc.
Contractors: Air Conditioning: J. HERMAN CO., Inc. • Heating: HICKMAN BROTHERS, Inc.



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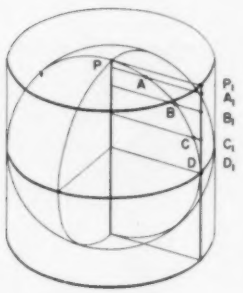


Once set, a Powers pneumatic thermostat, holds temperature constant day after day. It needs no frequent checking or readjustment.

(c39)

USEFUL CURVES AND CURVED SURFACES: 24—Sphere

By SEYMOUR HOWARD, *Assistant Professor, Pratt Institute, Architect associated with Huson Jackson and Harold Edelman*



MAPPINGS OF THE SPHERE

Since the sphere cannot be developed onto a plane, many methods of studying it in various projections or mappings have been devised. The construction of spherical domes, particularly the newly developed "geodesic dome," is facilitated by understanding some of these.

A. Cylindrical projection

This is an "area-preserving" mapping of the sphere onto a cylinder. Each point on the sphere is projected onto the circumscribed cylinder along the normals to the cylinder. The area (zone) on the sphere cut off by any two parallel planes, normal to the axis of the cylinder, will be equal to the corresponding area cut off on the cylinder.

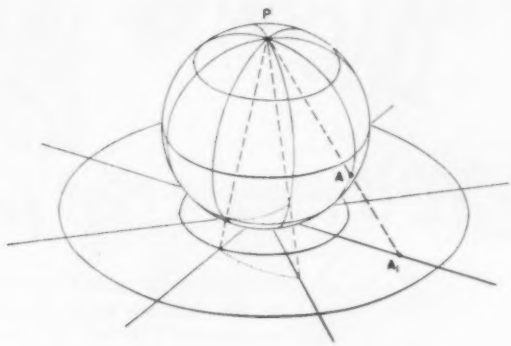
The great circles which have the axis of the cylinder as a diameter (i.e. longitude lines) become straight lines; the latitude circles are mapped as straight lines. All geodesics except the longitude lines and the equator are mapped as curves. The whole sphere is mapped onto a plane rectangular area, $2\pi R$ wide and $2R$ high.

B. Mercator's Projection

Like the cylindrical projection, this shows all meridian and latitude lines as straight lines, forming an orthogonal network. The longitude lines are equally spaced, proportionately to the degree of longitude; the latitude lines are spaced further and further apart as the latitude angle increases. On the map $x = R\theta$; $y = R \log_e (\sec \psi + \tan \psi)$ where θ is longitude and ψ latitude. This projection was developed for navigation: to map rhumb lines or loxodromes as straight lines. The rhumb line is a curve on the sphere which cuts all meridians at the same angle; it is the path taken by a ship whose course is fixed on a constant bearing with respect to true north. The whole sphere is mapped on a plane strip $2\pi R$ wide and of infinite height (although it is only the last fraction of a latitude degree which goes to infinity). Angles are preserved. The only geodesics which become straight lines are the longitude lines and the equator.

C. Stereographic projection

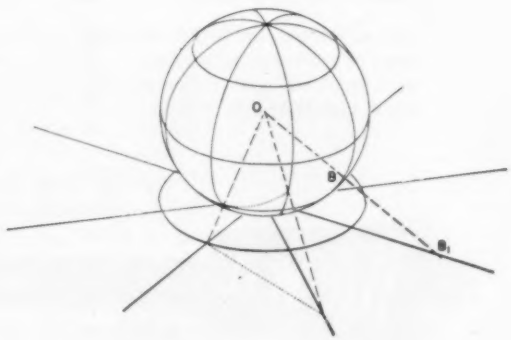
All points on the sphere are projected onto a plane which is tangent to the sphere, by rays from the pole which is diametrically opposite the point of tangency. All circles, geodesics and little circles, on the sphere are preserved as circles on the mapping. The arc of a geodesic is shown here as a dotted line. The radii of the projected circles are generally not the same as the circles on the sphere; the geodesics which pass through the pole are mapped as straight lines (which can be considered as circles whose radii are infinite). The angles between lines on the sphere are preserved on the mapping. Areas and distances are increasingly distorted as the mapping goes outward. However, the ratios of distances in any small area are approximately correct, and the stereographic projection can therefore be called a "conformal" mapping. The whole sphere is mapped onto the whole infinite plane once.



D. Central projection (sometimes called gnomonic projection)

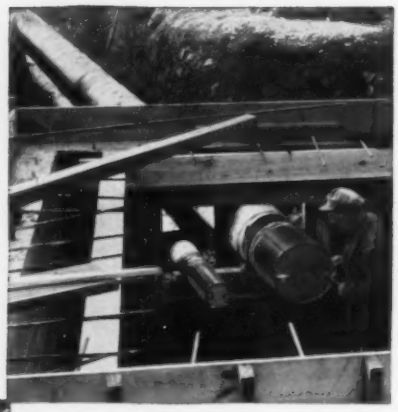
If a sphere is projected from its center onto a tangent plane, all geodesics become straight lines. A geodesic is shown here as a dotted line. Such a projection is called a geodesic map, because all the geodesics on one surface, i.e. the sphere, are geodesics on the other, i.e. the plane. Angles are not preserved, nor are areas. The whole sphere is mapped twice onto the infinite plane; in other words each half of the sphere covers the plane once.

Both stereographic and central projections may be useful in studying geodesic domes. The plane of projection can be moved about at will to show different portions with a minimum of distortion.



MR. ENGINEER:
LET'S FACE THE FACTS . . .

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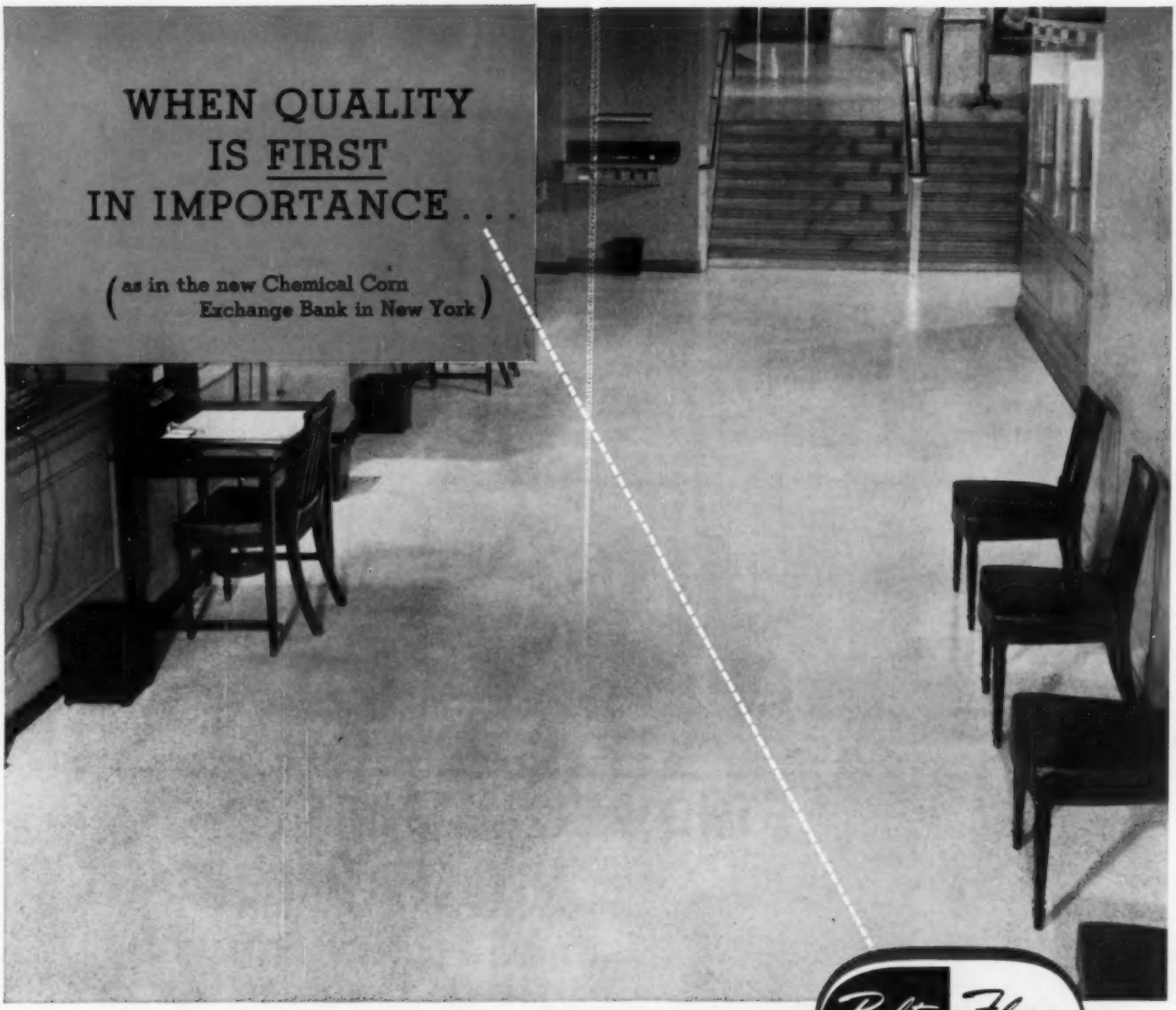
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TECHNICAL ROUNDUP

(Continued from page 212)

OUTDOOR SCULPTURE FORMED FROM AIR PLACED CONCRETE

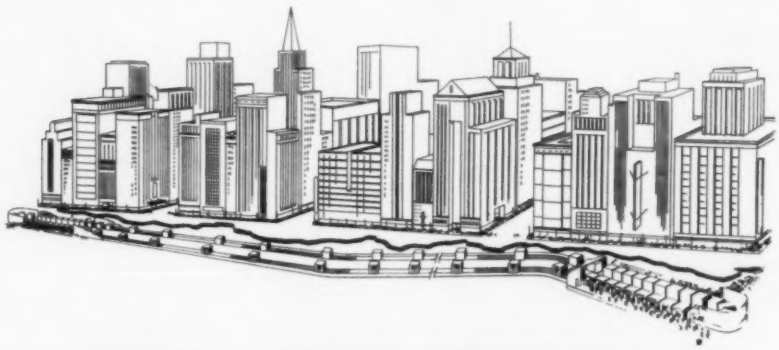


A search for new media led Julius Schmidt, chairman of the department of sculpture at the Kansas City (Missouri) Art Institute, to the air placed concrete building method — which student Herman Snyder promptly used for the non-objective outdoor sculpture shown above. Snyder had framed the piece in steel reinforcing rods and mesh, with the intention of covering it with hand-troweled concrete. Instead, the mesh structure was sprayed with a three to one mix of sand and concrete, which was then troweled to a smooth finish and sprayed with fine textured gray concrete.

RAPID TRANSIT SYSTEM PROPOSED FOR CHICAGO

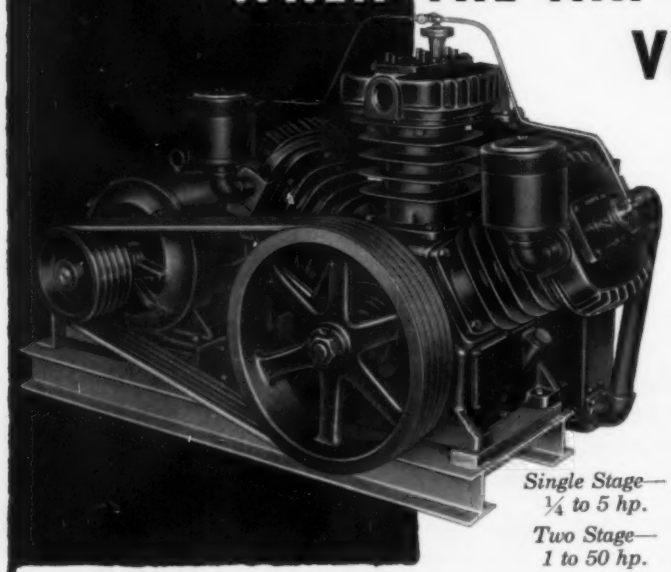
At the Chicagoland Fair last month, the Stephens-Adamson Mfg. Co. of Aurora, Illinois displayed a working model of a new rapid transit system proposed to carry passengers from the loop to stadiums and railroad stations.

Similar in principle to the heavy, rubberized conveyor belts long used for materials handling in industry, the system uses small (4, 6, 8 or 10 seat) cars to carry passengers from point to point along a continuously moving conveyor belt. The cars move through stations at approximately 1½ mph, allowing passengers to enter from a sidewalk moving at the same speed. As they leave the station, a bank of pneumatic rollers accelerates the cars to a cruising speed of 15 mph, which is maintained until they approach the next station and are slowed by a decelerating conveyor to the speed of the moving station platform. To propel the cars smoothly around curves, "live rolls" are set on radial lines, and the wheels rotated at different speeds. The shortness of the cars makes it possible for them to negotiate short-radius turns around building



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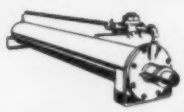
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VERTICAL OR HORIZONTAL TANK MOUNTED COMPRESSOR ¼ THRU 15 HP.

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corners without swinging out over intersections — a particular advantage for elevated lines.

Other advantages cited for the *Carveyor* system include continuous service, with no waits for trains; flexibility that allows its use for either elevated or underground systems; and low investment and operating costs.

STUDENTS PLAN MINING TOWN FOR 20TH CENTURY FRONTIER



In 1949 the Blind River area north of Lake Huron in Canada was undeveloped, its chief claim to fame the excellent hunting and fishing in the vicinity. Today its rocky wooded landscape boasts a population of 4,000 — and the world's largest uranium center. By 1960 an estimated total of 30,000 people will inhabit a mining community now taking shape on the shores of Elliott Lake.

Challenged by this emergence in the twentieth century of a new frontier — complete with boom town — city planning students at Cornell undertook as a class project the development of a long-range plan by which the mushrooming mining town might escape the ghostly fate met by so many of its predecessors in the last century. The course they have charted for the town of Elliott Lake is based on an attempt to cure at the outset what have been the besetting ills of similar communities in the past — a disproportionately large number of single men and transients, and a one-commodity economy.

Because of the ever-present specter of mine failure and because a study of the area showed that its economic potential (other than the three billion dollars worth of uranium) lies primarily in its scenery and wildlife, the student plan provides for the development of mass recreational facilities by which these natural resources might be exploited to make tourism a second — and perhaps more stable industry. This consideration, combined with the topography of the site, determined the layout of the model town. Four residential neighborhoods are ranged in a crescent along Elliott Lake's south shore, separated by "guaranteed green belts" of unbuildable terrain. The lake front itself is reserved for parks, with supplementary recreational facilities and the main commercial district placed in the large open areas at the center of the crescent. To the far east of the community are three and six-story apartment groups for the single men. These housing units are so designed that, as what the student report calls the "predominantly male and boisterous core" of the community is gradually replaced by family groups, they may be easily converted to resident hotels and tourist accommodations. *(More Roundup on page 228)*



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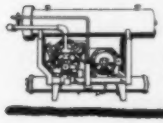


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The specially engineered structural steel framework, fabricated by Ingalls, is designed to accommodate two more floors with no additional strengthening of original under-structure . . . *yet, the column dimensions are held to a minimum.* All future splices on both exterior and interior columns can be made with a very minimum of disturbance to construction.

Ingalls' ability to coordinate and excellent shop control resulted in perfect matching and alignment of the structural steel. This effected substantial savings in fabrication and erection costs.

Ingalls' 47 years experience in fabricating structural steel . . . and in structural steel erection, too . . . will work for you, as well. Whatever you plan to build, using fabricated structural steel, give Ingalls the opportunity to help you do it *better!* Write for complete information . . .



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Capacity has been increased nearly 70% at Ingalls' Plants within the past three years . . . part of a program designed to give Ingalls the facilities to meet every modern requirement for fabricated structural steel for any construction purpose.

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The new Kansas State Office Building is illuminated by luminaires manufactured by the WESTINGHOUSE ELECTRIC CORPORATION, Lighting Division, Cleveland, Ohio. Lenses for these fixtures (see inset) of Du Pont LUCITE acrylic resin were injection-molded by the HOLOPHANE COMPANY, INC., New York, N. Y.

Better looking, better lighting

with luminaires using Du Pont LUCITE®

ACRYLIC RESIN

Du Pont LUCITE was specified for the forty thousand square lenses used to illuminate the new Kansas State Office Building by the Lighting Engineer for the State Architect.

Lenses of LUCITE were specified because they insure a "prairie field" of light, as opposed to "hill-and-valley" lighting. Also, when the weight, maintenance and safety factors for this important job were being considered, LUCITE was found to have a "top rating" in all these departments.

The molded lenses of LUCITE enable three fluorescent tubes in each fixture to deliver 65 foot-candles of glare-free light on the working area. Partitions may be moved to adjust office sizes, but light intensity varies only two or three foot-candles.

Though light in weight (in this case a total of 60 tons lighter than glass), LUCITE is strong and shatter-resistant. Handling and installation of lenses is easier, faster and safer. The lenses are easy to maintain, remain free from discoloration.

Versatile LUCITE has proved outstanding for all types of modern lighting installations: large-area lighting, low-brightness lenses for troffer and pendant luminaires, side panels, cove lighting enclosures and protective covers for outdoor lighting fixtures.

Can we help you accomplish better lighting by use of Du Pont LUCITE in your lighting designs?

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STUDENTS SPIN VINYL COCOONS FOR EXPERIMENTAL SHELTERS

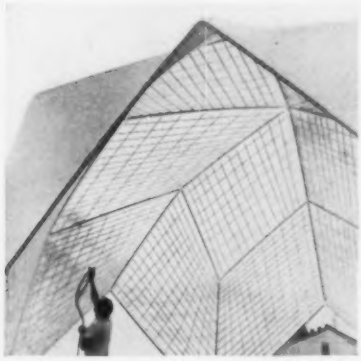
Employing a technique similar to that used for "mothballing" ships, students at Illinois Institute of Technology's Institute of Design have wrapped tubular steel frames in sprayed-on cocoons of a tough quick-drying vinyl which is inexpensive to use, easy to apply and as durable as many commonly used roofing materials. The project was initiated by Richard E. Baringer, head of shelter design, who believes that the technique might be used to construct better — and cheaper — houses.

To keep the sprayed skin in tension the experimental shelters developed by his students were built in the form of hyperbolic paraboloids. Before the plastic was applied, cloth tape was stretched over the frames and meshed at six inch intervals, giving the vinyl fibers a surface on which to cling. The structures were then sprayed with two coats of plastic, the first of which contained a webbing agent. White pigment was added to a finishing coat of pure vinyl to prevent the plastic's deteriorating under exposure to direct sunlight.

(More Roundup on page 232)

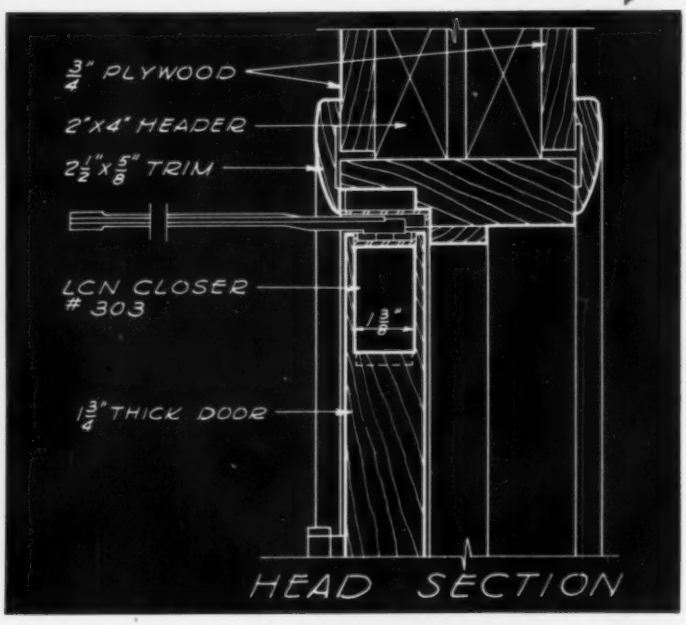






Experimental shelters constructed by students at Illinois Institute of Technology's Institute of Design apply the mothballing technique developed for ships to housing. Tubular steel frames, 12 ft high and 20 ft in diameter, are covered with a 6 in. mesh of cloth tape, sprayed with two coats of quick-drying vinyl. To prevent wind flutter, structures are built in the form of hyperbolic paraboloids.





CONSTRUCTION DETAILS

for LCN Closer Concealed-in-Door Shown on Opposite Page

The LCN Series 302-303 Closer's Main Points:

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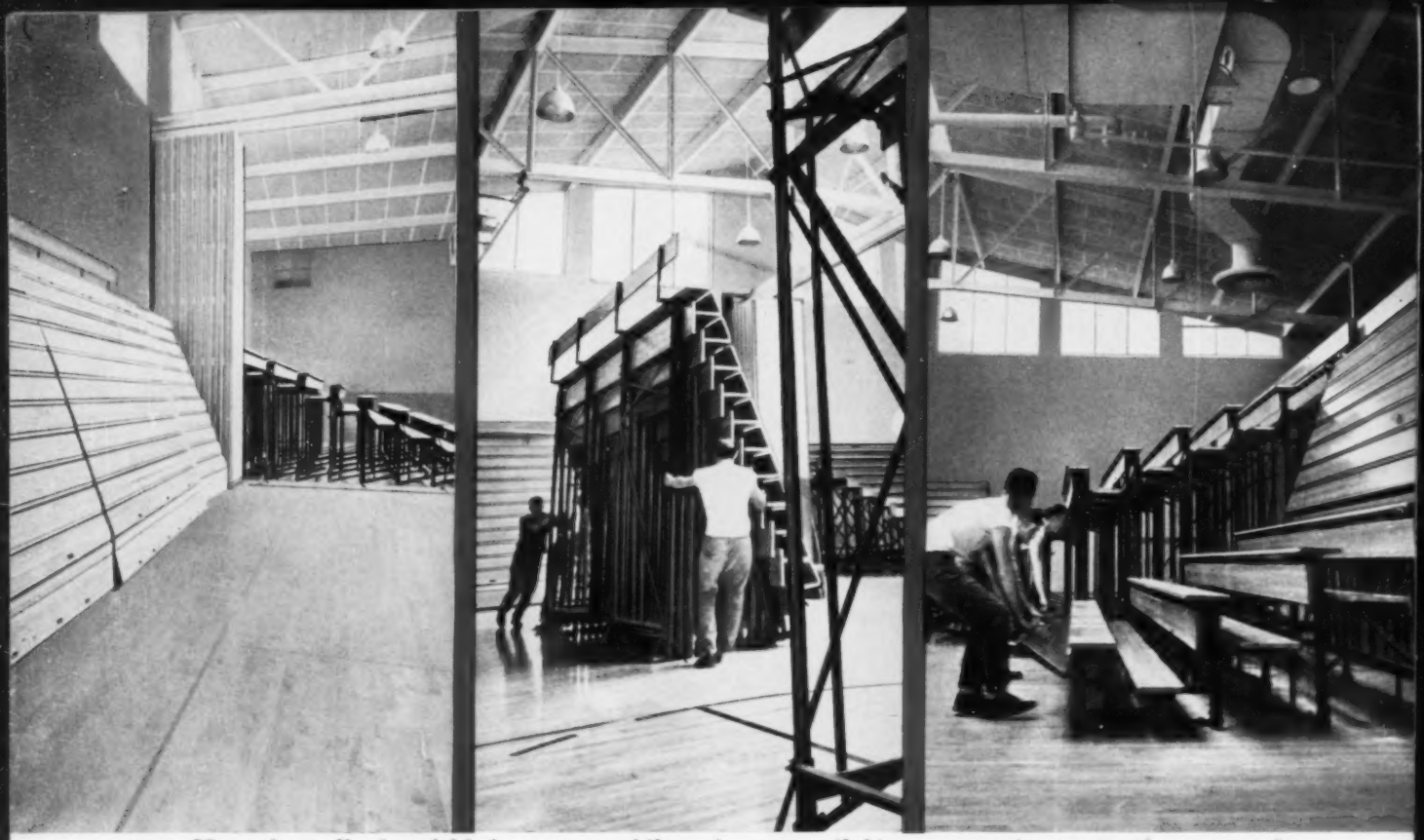
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MODERN DOOR CONTROL BY *LCN* · CLOSER CONCEALED IN DOOR

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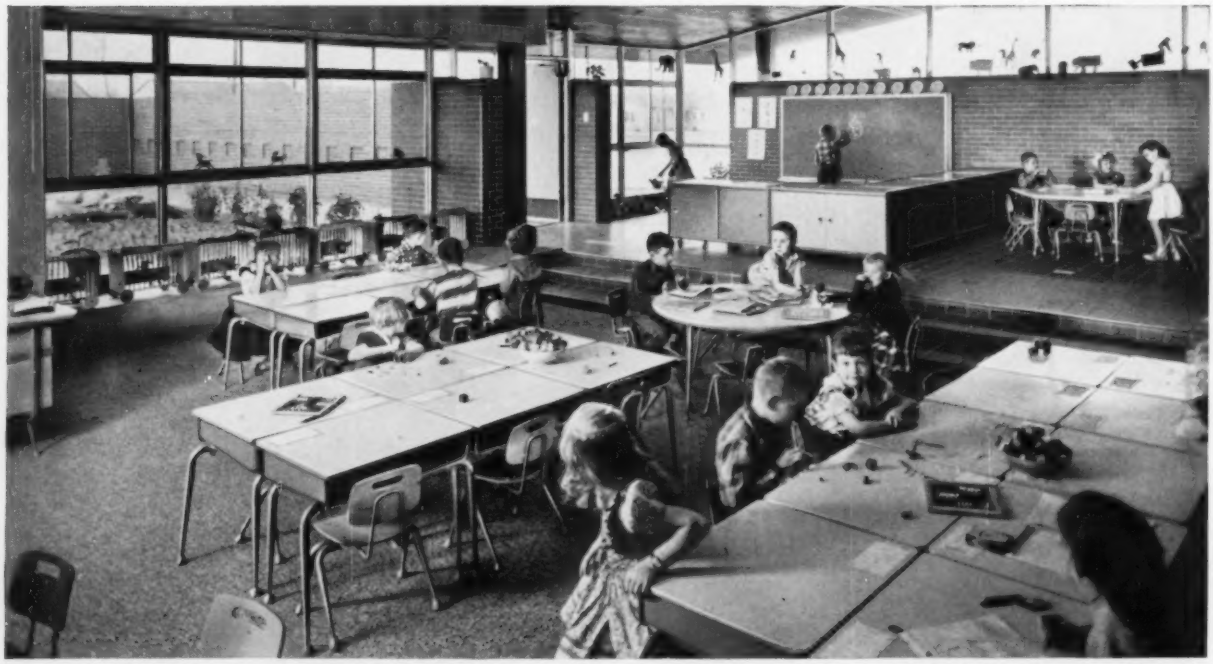
Construction Details on Opposite Page



Hugs the wall when folded . . . even mobile units are available . . . opens in one continuous motion,

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Another example of why Brunswick's complete line of school equipment is your best investment



Brunswick School Furniture is as flexible as today's teaching techniques! This classroom at Peter Pan School in Andrews, Texas demonstrates Brunswick flexibility in action. The *only* stacking line, it moves, nests and groups to meet every need.



Action photos taken at Lake Park High School, Medinah, Illinois

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pays for itself as you use it

Brunswick Folding Gymnasium Seating soon pays for itself in convenience and earning capacity. It lets students use every inch of activity space. And it quickly converts the gym into an auditorium for paid-admission events. Besides gym seating, Brunswick makes folding partitions, stages, basketball backstops, wardrobes and closet walls. Brunswick School Furniture includes chairs, desks, tables, cabinets . . . everything for the classroom. All offer a unique combination of advanced features and quality exclusives you'll find in no other line.

Complete Flexibility: Brunswick folding equipment and furniture makes every area of the school multi-purpose. It saves space, cuts maintenance costs, too. And Brunswick furniture is the *only* stacking line. It moves, nests, stores, and groups in countless combinations. You'll find Brunswick as ideal for after-school uses as for schoolday activities. The company pioneered the concept of flexibility . . . and is now taking the lead in further advances. No other line can offer such proof-in-use by hundreds of schools throughout the country.

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Rugged Construction: Many manufacturers have found inspiration in Brunswick's designs. But Brunswick quality is unique. No other line is engineered and constructed with such careful attention to quality. Every piece of Brunswick equipment is built as an investment . . . not merely a purchase. From concept to smallest detail, Brunswick furniture is rich with quality exclusives. Your representative can explain in detail how Brunswick is built for years of trouble-free use.

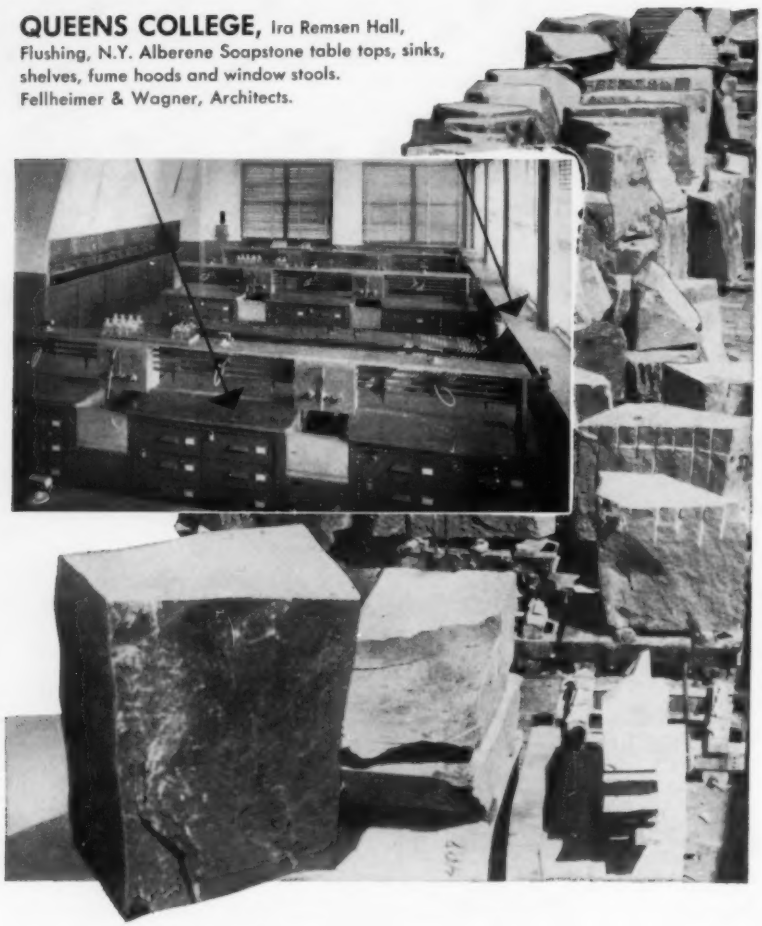
Dependable Service: Brunswick regards service as "quality in action". Your representative's service *begins*, not ends, when you buy. He is always on call. And Brunswick is the only line offering both folding equipment and furniture. You buy from a single dependable source . . . know exactly where to turn for service. Brunswick backs every sale with a quality reputation that has been bright for 112 years.

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Alberene Stone *is the only natural silicate stone with the surface that goes all the way thru.* It can be cut, drilled, tongue-and-grooved, refinished and reused almost indefinitely — *while providing the best obtainable chemical resistance!*

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ALBERENE STONE

provides LOW ABSORBENCY protection

TECHNICAL ROUNDUP

PLASTIC PLAY SCULPTURE FOR JUNIOR JONAHS



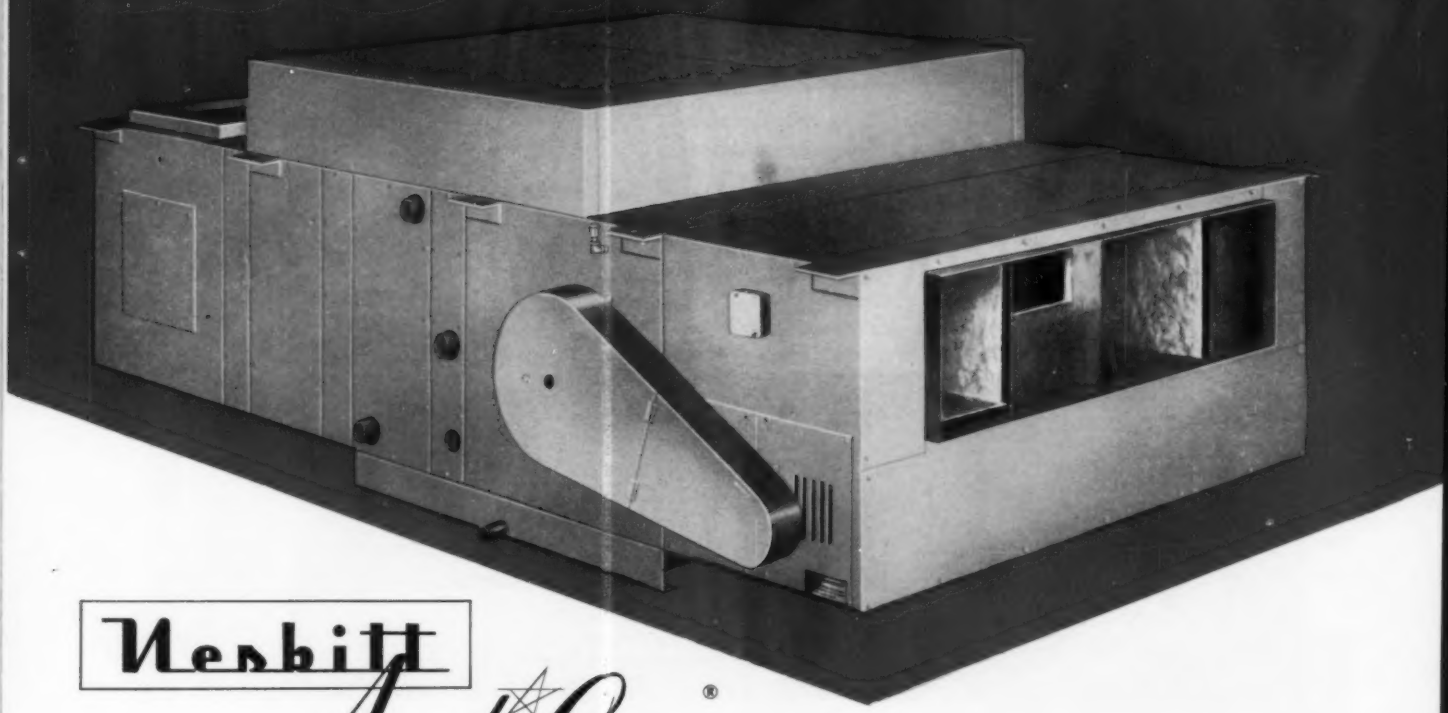
A "great white whale" of reinforced plastic obligingly thrusts his tail 9½ feet in the air to form a curved slide for youthful patrons of a drive-in theater on Long Island. Designed by Dr. Joseph Brown of Princeton University's School of Architecture, the 32-foot whale is molded of polyester resin over a sisal core. The concave scooped back which forms the sliding surface is covered with a double layer of acrylic fiber cloth to provide the necessary abrasion resistance. Youngsters clamber topside via a nearby "rope ladder."

STEEL OFFICE WALLS PERMIT OVERNIGHT ALTERATIONS

Movable steel walls that may be shifted overnight to meet changing space requirements have been developed to give tenants in a New York City office building maximum freedom in arranging their office spaces. Designed jointly by the Tishman Realty Construction Company, Inc. and the E. J. Boyle Division of the Aetna Steel Products Corporation, the panels will be supplied in varying widths for added flexibility in locating walls and doors, and can be cut through to provide interior windows. Since the walls themselves form a continuous raceway for wiring, telephones and electrical outlets and switches can be placed wherever desired.

The 3-in. thick partitions are made up of flush steel panels filled with an inorganic material which provides soundproofing while increasing the rigidity of the wall. They are tightly fitted together with friction joints to insure dimensional stability of rooms. Except for the removable projecting base panels that give access to the wiring, the walls present a smooth flush surface unbroken by vertical members or mouldings. Factory-finished with a baked enamel prime coat, the panels may be painted after installation, or surfaced with such materials as tile or wood panelling.

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One unit does all The AudiCon heats, naturally cools, ventilates, and air conditions in summer to furnish all-season comfort.

Built-in sound prevention The acoustically lined silencer plenum, plus isolated motor and low-speed fans, guarantee the quiet operation required for auditoriums.

Improved control increases comfort Exclusive AudiCon return air bypass arrangement assures always that moisture-laden outdoor air is properly cooled and dehumidified.

The Nesbitt AudiCon is available in models from 1250 to 15,000 cfm; 3 to 60 tons cooling capacity, in either horizontal or vertical arrangement. Extremely flexible, the AudiCon offers a wide choice of arrangements, outlet velocities, and types of control. Can be installed now with provision for air conditioning in the future.

Send for informative Publication 22-1

HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT FOR SCHOOLS

Nesbitt

Made and sold by John J. Nesbitt, Inc., Philadelphia 36, Pa. Sold also by American Blower Corporation and American-Standard Products (Canada) Ltd.



NEW MICROTEX DUCT LINER

saves cost of painting inside ducts; insures complete protection against air erosion; helps speed fabrication

Now you can get duct liner with high acoustical and thermal insulating efficiency . . . *plus* the money-saving advantages of black vinyl coating. Here's why it pays to specify L·O·F Glass Fibers' new Microtex Duct Liner:

1. No painting duct interiors— Black vinyl-coated Microtex saves the cost of painting ducts inside, near grills or large registers. Factory-pigmented coating eliminates chance of paint flaking off into airstream.

2. Insures full coating—Its black vinyl coating marks the quality of L·O·F Glass Fibers' Microtex Duct Liner. Quality-control inspectors can *see* it's *fully coated* to resist air erosion, even at peak velocities.

3. Saves fabrication time—Pigmented vinyl clearly marks the airstream side of Microtex Duct Liner. Shows at a glance which side to apply toward adhesive before forming the sheet metal in the brake.

L·O·F Glass Fibers' Microtex Duct Liner offers maximum insulation per dollar. Made from fine glass fibers, it absorbs mechanical noises, particularly in the 250 to 4,000 cps range where most heating and air-conditioning system noises occur. It efficiently insulates warm- and cold-air ducts against heat transfer. When lined with Microtex, the metal of the duct acts as a vapor barrier, minimizing condensation.

Get the facts today on economical Microtex Duct Liner in 1½, 2 and 3 lb./cu. ft. densities. Contact your distributor, or write: *L·O·F Glass Fibers Company, Dept. 79-87, 1810 Madison Ave., Toledo 1, Ohio.*

L·O·F GLASS FIBERS

L·O·F GLASS FIBERS COMPANY • TOLEDO 1, OHIO

MUTUAL TRUST LIFE BUILDING IN CHICAGO FEATURES

CURTAIN WALLS of STAINLESS STEEL

by GENERAL BRONZE CORPORATION

North, south, east and west...in every section of the country you'll find outstanding buildings with curtain wall systems and windows by General Bronze.

The Mutual Trust Life Insurance Co. building in Chicago, Ill. is another example of a superbly designed building featuring a curtain wall grid system *in stainless steel* by General Bronze Corporation.

If you are thinking of curtain walls (either skin or grid and panel system) in terms of aluminum, bronze, or stainless steel, we offer you the benefits of our extensive experience in designing, engineering, fabricating and erecting curtain walls. With a background of more than 45 years in the production of architectural metal work and windows, and more than 10 years in curtain wall construction, we can help you avoid costly pitfalls in this highly specialized field.

For additional information on General Bronze products—curtain wall systems, windows, revolving doors, architectural metal work – call in the General Bronze representative nearest you, or write us direct. Our catalogs are filed in Sweet's.

Mutual Trust Life Insurance Co., Chicago, Ill.
Architects: Perkins & Will
Contractor: A. L. Jackson Co.



GENERAL BRONZE CORPORATION

Executive Offices and Main Plant: **Garden City, N. Y.** ***Sales Offices:*** **100 Park Ave., New York, N. Y.**

PERMATITE DIVISION—Custom-built Windows, Architectural Metal Work and Revolving Doors. **ALWINTITE DIVISION**—Stock-size Aluminum Windows
BRACH MFG. CO. DIVISION—Multel, T. V., Radio and Electronic Equipment. **STEEL WELDMENTS, INC. DIVISION**—Custom fabrication in steel and iron.



Mary Josita Hall, Clarke College, Dubuque, Iowa
Architects: Barry & Kay, Chicago, Illinois

When only the finest is adequate . . .

Architects specify Fleetlite Sliding Windows!



Section of Fleetlite Sliding Window showing exterior and interior sash, screen, and extruded aluminum frame.

Fleetlite windows offer unequaled economy and ease of maintenance. Self-storing double sash is safely cleaned from inside — provides added insulation to reduce heating and cooling costs. Windows are factory assembled and shipped ready for immediate installation.

Durability, Dependability and ease of operation make Fleetlite the preferred window for dormitories, hospitals and institutional buildings as well as the finest residences.



Picture Window Beauty Plus Sliding Window Convenience!

Combined Fleetlite picture and sliding windows make an attractive and practical unit, provide maximum light plus the benefits of controlled ventilation and double sash protection.

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AMERICA'S finest WINDOW ®

Please send complete information on Fleetlite:

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- ☐ Double, Double Hung Windows
- ☐ Sliding Doors and Picture Walls
- ☐ Jalousie Windows and Doors

FLEET OF AMERICA, INC., 2029 Walden Avenue, Buffalo 25, N. Y.

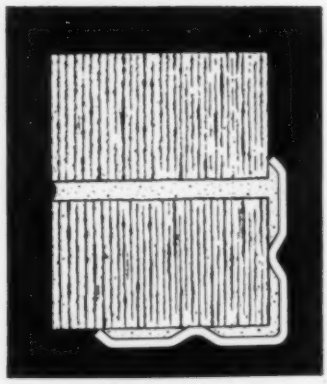
PRODUCT REPORTS

(Continued from page 213)



200 Ampere Panelboard

Designed to accommodate 15 to 20 amp double or single pole and 15 and 20 amp switching neutral circuit breakers, *E-Z-Red* panelboards come with 28 to 42 individual circuit controls, 3 wire or 3-phase 4 wire. Amperage ratings for the main lugs only are 200 and 210. For easy wiring and installation, the interior assembly is attached to an easily removable self-aligning mounting plate which also holds the terminal line block. The reversible galvanized steel cabinet accommodates line lugs at either top or bottom. *Wadsworth Electric Mfg. Co., Inc., Covington, Ky.*



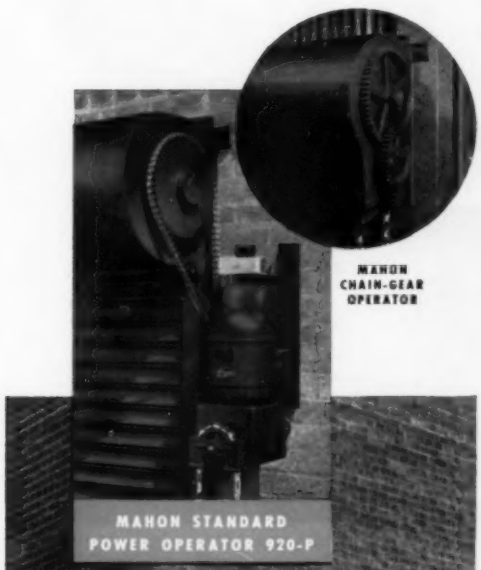
Ribbed Steel Lintels

A new line of heavy gage roll formed steel lintels for brick and blockwork features a ribbed construction which is said to provide engineered strength with less weight than standard angles, and to assure proper space for a solid uniform mortar bed. Pre-cut in standard lengths for on-the-job use, the lintels are easily installed, with resultant savings in labor costs. *Gabriel Steel Co., 13700 Sherwood Ave., Detroit 12, Mich.*

(More Products on page 240)

Rolling Steel Doors

Manually, Mechanically or Electrically Operated



The selection of the right type of door for an opening is an important decision. This is particularly true in loading dock openings, truck openings and railroad openings where the time element and operating space requirements are primary considerations. This is where the rolling steel door comes into its own . . . because, a quick-opening, quick-closing, power operated rolling steel door saves both time and space. The vertical roll-up action is fast, requires no usable space either inside or outside the opening, and there are no overhead tracks or other obstructions to restrict headroom and interfere with handling or goods stacking adjacent to the opening. No other type of door can give you this compactness in operation. And no other type of door can give you the positive security, firesafety and permanence of a good rolling steel door . . . all-metal construction reduces maintenance to a negligible factor, and assures you a lifetime of continuous trouble-free service. When you buy a rolling steel door, it will pay you to check specifications carefully . . . you'll find that Mahon doors are built better to give you better service over a longer period of time—for instance, the galvanized steel in Mahon curtain slats is BONDERIZED and DIP-COATED with Synthetic Enamel which is baked on at 350° F. prior to roll-forming. This is just one of the extra-value features of Mahon Rolling Steel Doors . . . comparison will disclose many others that add up to a much better investment. See Sweet's Files for information, or write for Catalogue G-57.

THE R. C. MAHON COMPANY • Detroit 34, Michigan

Sales-Engineering Offices in Detroit, New York and Chicago • Representatives in Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Underwriters' Labeled Rolling Steel Fire Doors and Fire Shutters; Underwriters' Rated Fire Walls; Insulated Metal Curtain Walls; Electrified M-Floors; Acoustical and Troffer Forms; and Steel Roof Decks and Long Span M-Decks.



ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Above are Two of Three Mahon Power Operated Rolling Steel Doors installed in double truck openings in a new plant for Nicolay-Dancey, Inc., Detroit, Michigan. In this installation, Doors are mounted outside while Power Operators are mounted inside with Mahon Thru-the-Wall Drive. Harold D. Ilgenfritz, Architect. F. H. Martin Company, General Contractors.

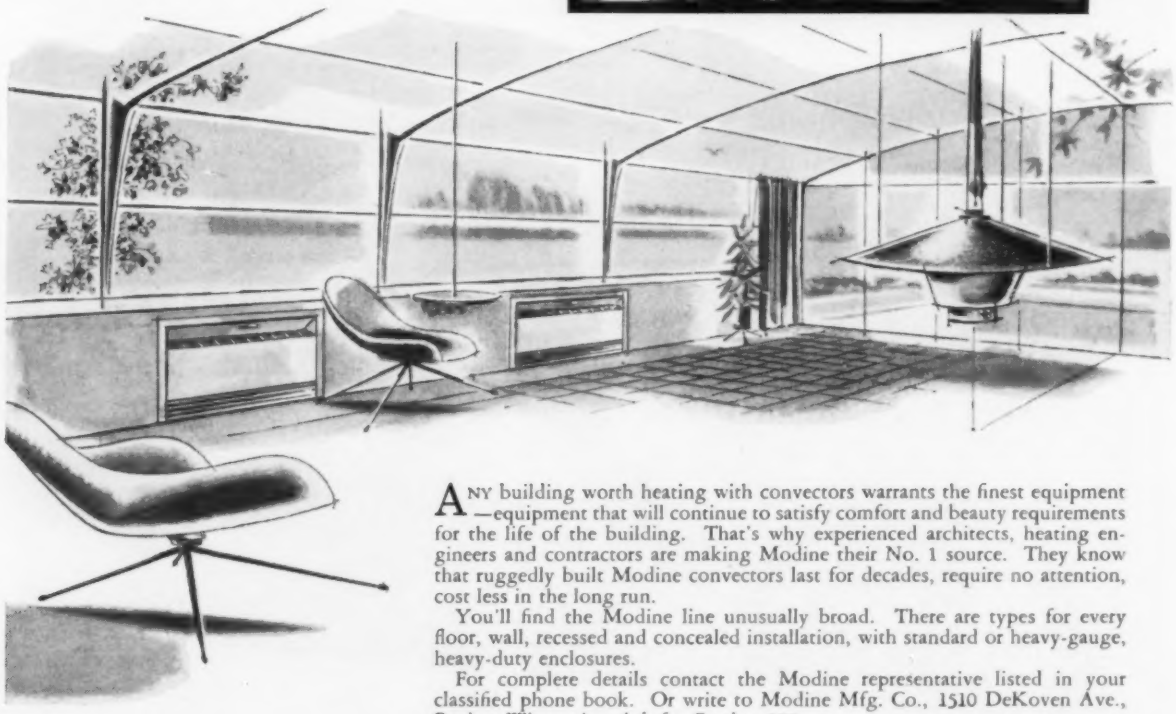
M A H O N

PLAN FOR 1999

with MODINE convector radiation



30 types, 8,000 sizes ... to help you plan for the years ahead

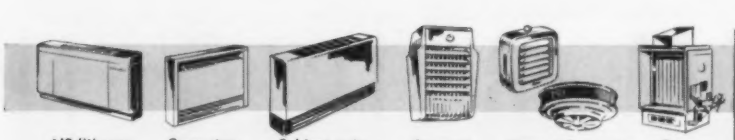


ANY building worth heating with convectors warrants the finest equipment—equipment that will continue to satisfy comfort and beauty requirements for the life of the building. That's why experienced architects, heating engineers and contractors are making Modine their No. 1 source. They know that ruggedly built Modine convectors last for decades, require no attention, cost less in the long run.

You'll find the Modine line unusually broad. There are types for every floor, wall, recessed and concealed installation, with standard or heavy-gauge, heavy-duty enclosures.

For complete details contact the Modine representative listed in your classified phone book. Or write to Modine Mfg. Co., 1510 DeKoven Ave., Racine, Wisconsin. Ask for Catalog 257.

R-1352



AIRditioners | Convectors | Cabinet units | Gas unit heaters | Steam & hot water unit heaters | Duct furnaces

In Canada: Sarco, Ltd., Toronto

Modine
MANUFACTURING COMPANY

STAINLESS STEEL MAKES THE DIFFERENCE

...its effect on modern architecture

A variety of textures and colors. Many standard shapes and sizes. The ability to blend easily with other materials. That's how stainless steel helps architects achieve the modern, clean lines so effective in the best of today's skyscrapers, shopping centers, industrial buildings and elsewhere.

Stainless steel can save money, too! Superior corrosion resistance reduces maintenance. Superior strength and hardness keep trim and doorways dent and scratch free. When it's built of stainless steel, it's a permanent job.

For more information about stainless steel and the contribution it can make to your plans, see your stainless steel supplier or write ELECTROMET—leading producer of more than 100 alloys for the metal industries, including chromium and manganese for making stainless steels. ELECTRO METALLURGICAL COMPANY, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y.

METALS DO MORE ALL THE TIME ...THANKS TO ALLOYS

Electromet
FERRO-ALLOYS AND METALS

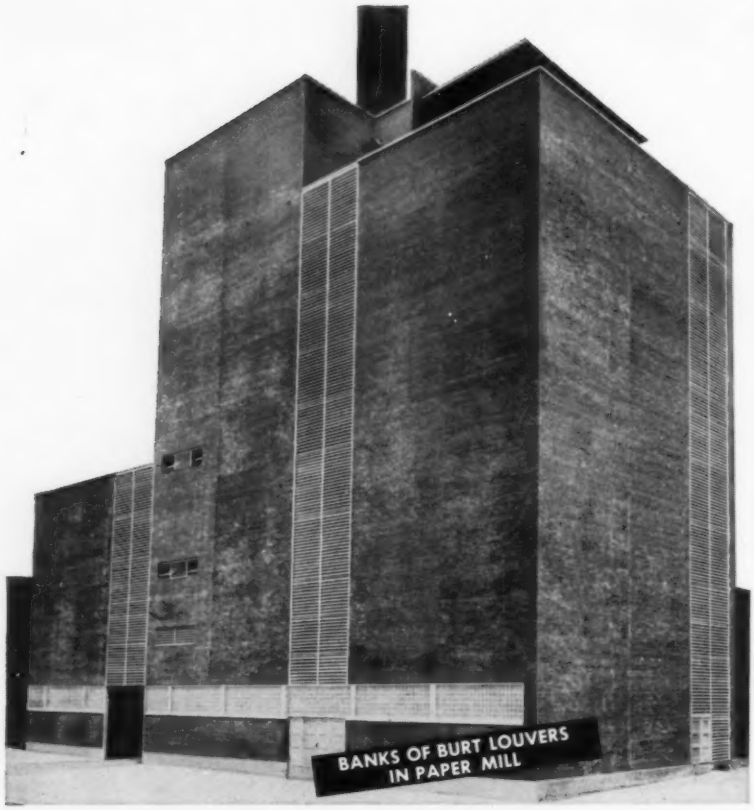
UNION CARBIDE



Socony Mobil Building
New York, N. Y

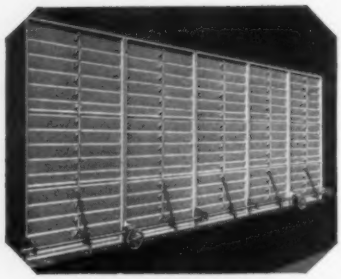
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BURT LOUVERS ARE VITAL VENTILATING EQUIPMENT

Air removed from a building with gravity or fan ventilators *must* be replaced. Burt Wall Louvers, with fixed or adjustable blades, provide efficient, weatherproof air inlets. The Burt line is complete, from general purpose models to industrial types and includes removable screens, louver operators and other accessories. Burt experience and specialized equipment also provide every facility to economically construct special units when required.



Series of Burt Adjustable Louvers



Send for **FREE** *Data Book!*

Write for Burt Data Book SPV-17. It Supplies quick data on Burt's complete line of modern Wall Louvers.

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PRODUCT REPORTS



School Heating and Ventilating

According to its manufacturers, the Lennox *Comfort Curtain* classroom heating and ventilating system not only offers more student comfort, but does so at considerably less cost than that of equipment heretofore considered adequate. Extensive tests of a typical system installed in the "Living Laboratory" research school building (ARCHITECTURAL RECORD, January, 1957, pp. 242–243) have shown that it will maintain classroom temperatures within one degree of the thermostat setting under normal occupancy, regardless of outside conditions.

The equipment, which operates independently in modules of two or four classrooms, consists of a direct fired oil or gas heat exchanger for each module, plus an air processing unit and a continuous shelf or wall duct for each room. The air processing unit contains the blowers, filters, dampers and controls that provide pinpoint regulation of room air temperature; the duct stretches a series of discharge outlets along the full length of the room, providing blanket distribution at a velocity that does not permit cool air to drop down on students near the supply openings. The heater may be installed either in the classroom or adjacent to it. *Lennox Industries Inc., Des Moines, Iowa.*



(More Products on page 244)



TWA TICKET OFFICE, ROCKEFELLER CENTER

Interiors with sales appeal have wall-to-wall Honeylite.

There's a big reason why two major transportation companies in one month have chosen Honeylite for their important Manhattan ticket sales offices. The reason is customers like a Honeylite atmosphere and buy! (Employees like Honeylite, too, and make fewer errors because their eyes are fresh and rested all day long.)

Why does the public like a Honeylite ceiling so much? Well, first of all, Honeylite is always spotlessly clean. Dust and dirt just fall through—can't stick to Honeylite because it's non-static. Honeylite rooms have a cool and airy feeling. Overhead air-conditioning systems are actually made more efficient by the thousands of little hexagonal "wind tunnels" in each square foot of Honeylite...(yet these unsightly utility systems are obscured). And, of course, Honeylite casts a completely glare-free flattering light—with nearly perfect efficiency.

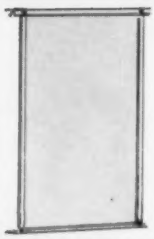
See our Catalog in Sweet's file 31a/He

HONEYLITE®
LIGHT-DIFFUSING ALUMINUM HONEYCOMB
A DEVELOPMENT OF **HEXCEL PRODUCTS INC.**
951-61ST STREET, OAKLAND 8, CALIFORNIA

Modern Plans Include Sliding Doors*. . . and

GLIDE-ALL® *Sliding Doors* offer you many advantages

TWO UNUSUAL GLIDE-ALL FEATURES



FLOATING PANEL CONSTRUCTION
Each panel is reinforced on all sides with rolled steel tubing. However, the unique construction permits the panel to "float" to compensate for expansion and contraction, preventing warpage.

GUIDED PANEL OPERATION
Each GLIDE-ALL panel has two adjustable upper rollers and two adjustable lower guides to give each panel four contact points. This assures positive panel stability and prevents racking or twisting during operation.

■ There are many reasons why you will find GLIDE-ALL your better choice in sliding doors. Through extensive research by Woodall design and production engineers, they were developed to provide versatile, economical "package" sliding doors for modern storage space—with these advantages:

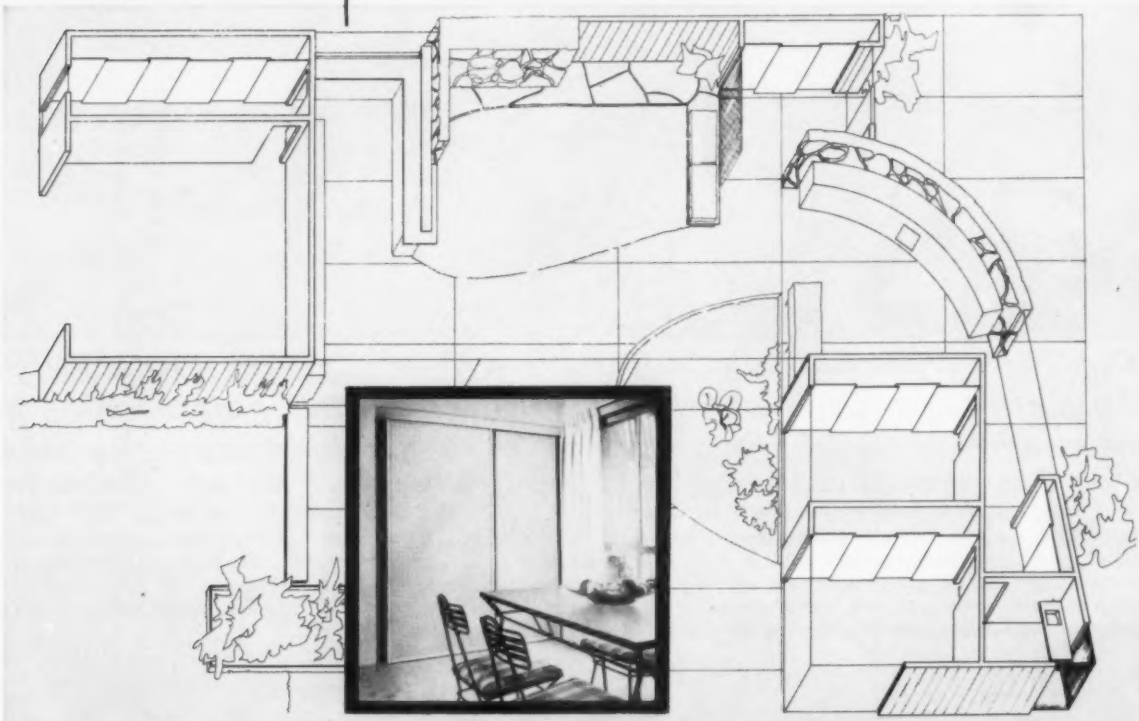
ATTRACTIVE APPEARANCE They are neat and simple in the modern trend to functional design. As 8′ floor-to-ceiling, wall-to-wall panels or for 6′8″ wardrobe enclosures they decorate with the walls to make rooms seem larger.

ECONOMY The simplicity of GLIDE-ALL 8′ floor-to-ceiling, wall-to-wall installations results in savings in both construction time and materials. Modern manufacturing techniques used in producing GLIDE-ALL Doors means low unit cost.

SIMPLE, QUICK INSTALLATION Top track is screwed to ceiling, threshold is fastened to the floor and panels are slipped into operating position.

EASY ADJUSTABILITY GLIDE-ALL Sliding Doors have adjustment features to allow perfect fitting in out-of-plumb or variable openings. Top rollers and bottom guides adjust a full ¾″

***An Example**— *design by Schurecht, Inc., Morton Grove, Illinois. White areas show 8′ high, floor-to-ceiling GLIDE-ALL Sliding Doors.*



Get the complete details . . . see Sweets Files or write Plant nearest you.

GLIDE-ALL DOORS ARE A PRODUCT OF
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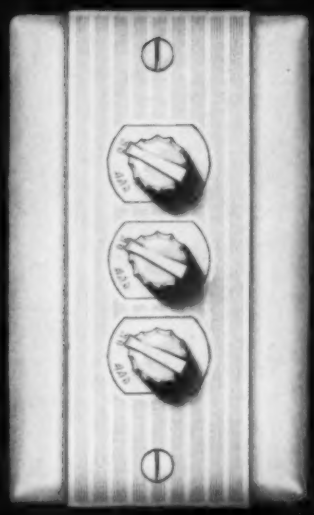


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NEW YORK CITY

ARCHITECTS
SYLVAN BIEN AND ROBERT L. BIEN

BUILDERS
ANTHONY CAMPAGNA & SONS

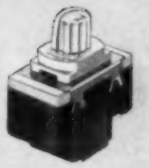
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ROTO-GLO
15 AMPERES



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P&S Roto-Glo was the preference throughout the magnificent new apartment residence, 176 East 77th St., New York City. Each apartment features rooms designed for utmost convenience and beauty.

The planners immediately recognized Roto-Glo's clean-lined handsome styling, quiet, easy operation and luminous soft glow as harmonious with the building's own modernity. Moreover, they wanted the flawless operation and long life assured by Roto-Glo. As a complement to Roto-Glo, P&S 1500 outlets were selected.

- Operates with feather-light quarter turn.
- Extra heavy construction . . . large, non-oxidizing silver alloy contacts.
- Full 15 Ampere rating for fluorescent and incandescent loads.
- Screwless terminals for quick, easy installation.

For information on any of the wide range of P&S quality wiring devices, write Dept. S-2.

Combined with the 1500



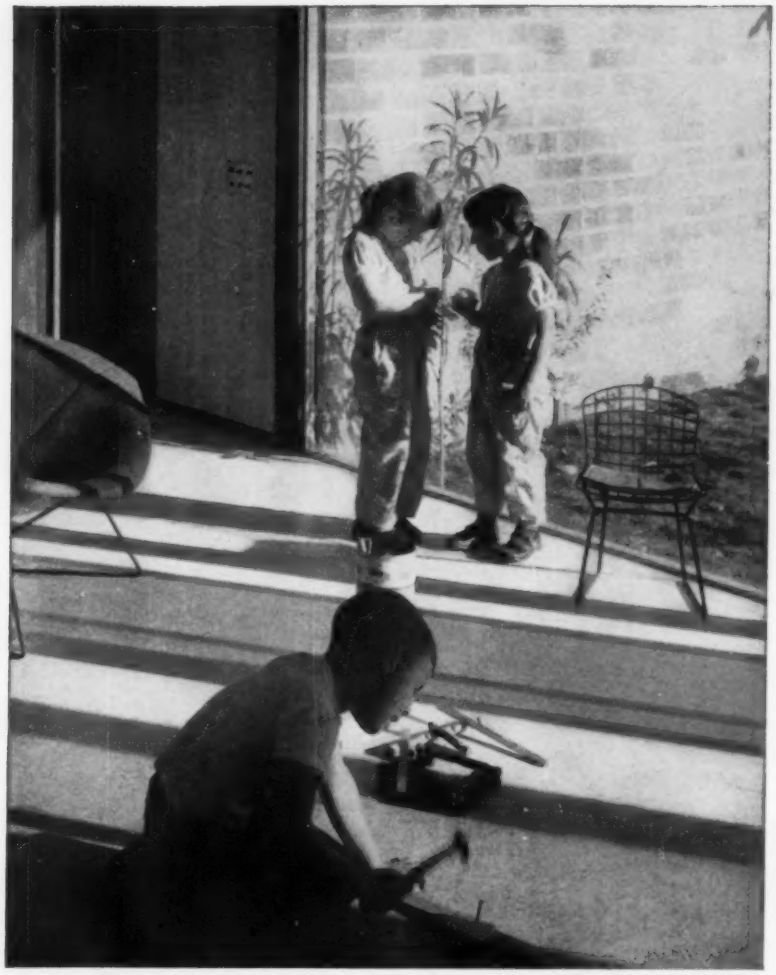
At 176 East 77th Street, Roto-Glo was combined with #1500 outlets to insure trouble-free performance.

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CASE STUDY HOUSE NO. 17, DESIGNED BY CRAIG ELLWOOD FOR THE MAGAZINE, ARTS & ARCHITECTURE. PHOTO BY JASON HAILEY, 506 S. SAN VICENTE, LOS ANGELES.

Terrazzo:

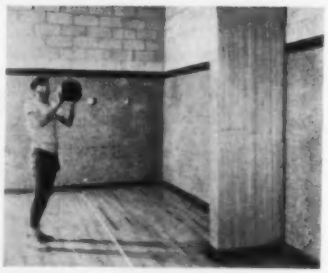
The one to grow on

Young *homo sapiens*, nature's most charming and destructive invention, meets his match in Terrazzo, the floor of ageless vitality. Capable of withstanding the most fiendish attacks known to children, Terrazzo comes through with flying colors. It is easy to clean, hard to stain. It requires no refinishing, no painting, no costly repairs. Available also for walls, stairs and wainscots, Terrazzo offers infinite possibilities of design and color combinations. Specify Terrazzo and give your imagination free rein. For detailed information, write the Association in Washington, D. C. AIA Kit sent upon request. Catalogued in Sweet's.

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION

404 Sheraton Building, 711 14th St., N.W. Washington 5, D.C.

PRODUCT REPORTS



Cold Glazed Concrete Finish

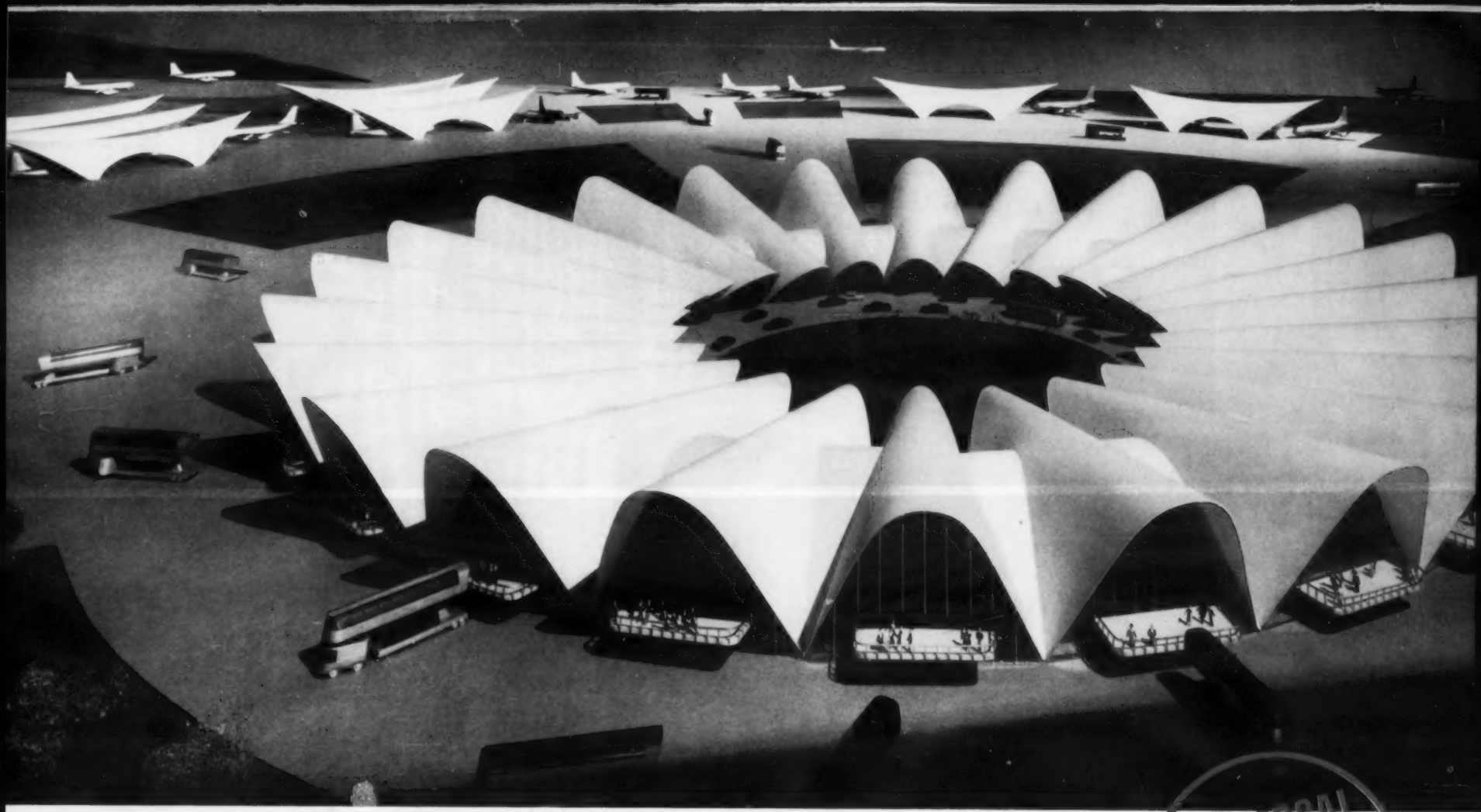
A concrete finish that is sprayed on and glazes like tile provides a smooth durable surfacing for interior or exterior walls of concrete, brick, stucco or plaster. Available in a wide range of colors, the thin (1/16 in.) *Vitricon* finish is applied with low pressure spray equipment similar to that used for paint. A surface glaze forms upon application; usable hardness is reached in a few hours; maximum toughness within a month. When properly applied, the finish resists shock and abrasion, is non-staining and non-fading, and can be cleaned with soap and water. *Vitricon, Inc., Long Island City, N. Y.*



Packaged Ceiling for Bathrooms

Developed for standard 5 by 7 ft and 5 by 8 ft bathrooms, the packaged *Sunshine Ceiling* consists of an electrical channel system for six 100 watt incandescent lamps, and a pre-assembled steel grid which holds six 2 by 2 ft plastic diffusers. It is installed by simply attaching the electrical channel to the rough ceiling, hooking the 4 by 6 ft diffuser grid onto the channel and laying the diffusing panels into the grid. Because the finished ceiling "floats" clear of the walls, no wall attachments are necessary. Suspension is 8½ inches. *The Wakefield Co., Vermilion, Ohio.*

(More Products on page 246)



Demere

TOMORROW'S AIRPORT: built for convenience of people and planes

"The design of this airport reflects the needs of mass transportation by air. Passenger facilities are concentrated in a central, compact, efficient terminal. Each airline's loading stations, freed from direct contact with the passenger terminal, are separated from the servicing hangars for maximum operational efficiency and flexibility. Passengers and luggage are transported by two-deck bus carriers to and from the terminal and the aircraft—no long walks, no ramps, no exposure to inclement weather. The terminal building is roofed by a series of concrete shells stiffened through their intersecting elements. The servicing hangars reflect in their shape the dimension of the protected aircraft. This airport project utilizes the versatility of concrete as a building material."

VICTOR GRUEN ASSOCIATES, *Planning, Architecture, Engineering;* EDGARDO CONTINI, *In charge of project*

UNIVERSAL ATLAS CEMENTS

■ One of a series of advertisements being presented in national magazines by Universal Atlas — to promote interest in architectural contributions for a greater America through the medium of concrete. For more about this building method, write to Universal Atlas, 100 Park Avenue, New York 17, N. Y.

UNIVERSAL ATLAS CEMENT COMPANY — MEMBER OF THE INDUSTRIAL FAMILY THAT SERVES THE NATION — UNITED STATES STEEL

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"UNIVERSAL," "ATLAS," "DURAPLASTIC," "LUMNITE" and "UNAFLO" are registered trademarks of Universal Atlas Cement Company.

• A good chair is like a good wife...if you choose with care, it will look after your comfort and aid you in your work for a long time to come



Cramer CHAIRS ARE

GOOD CHAIRS

Scientifically planned to aid YOU in your work . . . designed to support you comfortably whether you're chewing your pencil or bent over hard at work . . . engineered from the quality materials YOU would recommend, with independently adjustable seat, back and footring to conform to your physique . . . and with removable, replaceable covers in a wide range of fabrics and colors to match YOUR decorating plan.



Pictured, Cramer Hi-Model 4D-22T with forward-tilt seat; others available. All are low-gravity balanced for safe use on casters if desired.

LIKE MORE INFORMATION?

Cramer Posture Chair Co., Inc., Dept. AR87 1205 Charlotte, Kansas City 6, Mo.
Please send me complete facts on the Cramer Hi-Model chairs designed for working architects and engineers.

Name _____

Firm _____

Address _____

PRODUCT REPORTS

Plastic-Finished Counter Stools

Lion Brand bar and counter stools may now be selected in a durable new sprayed and baked plastic finish in bronze or gold. Available in the new low cost finish are columns for table bases and counter stools, seat rings, costumers, table legs, bar stool frames and seats and backs. *L & B Products, Corp., 189 Huguenot St., New Rochelle, N. Y.*



Low Cost Roof Deck System

According to the Perlite Institute, the use of Jones & Laughlin's "K" clip system, together with a perlite concrete slab, produces the most economical non-combustible roof deck system yet developed. The brain child of consulting engineer E. S. Klausner, the "K" forming system employs small cast iron clips which, when placed at regular intervals along the top flange of roof framing members, support plywood sheets used as concrete forms (see above). To provide greater rigidity and eliminate bridging, the clips are designed to allow the concrete to extend ¼ in. below the top flange of the beam. Stripping is accomplished by simply breaking off the exposed "tail" of the cast iron clips and allowing the forms to drop. Savings inherent in this forming method are substantially increased by the use of a 3 in. slab of 300 psi perlite concrete which provides a high degree of fire retardance and adequate insulation in addition to meeting structural requirements. *Jones & Laughlin Steel Corp., Pittsburgh, Pa.*

(More Products on page 250)

Onan ELECTRIC PLANTS

ELECTRIC PLANT NEWS



Power outages can do no harm in this hospital

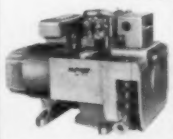
Onan Electric Plant supplies emergency power for lighting and all vital electrical equipment

An Onan Emergency Power System protects patients and personnel. Supplies current for lighting corridors, operating rooms, delivery rooms, stairways; provides power for heating system, ventilators, elevators, X-Ray machines, and other vital equipment.

Your hospital is assured of electric power at all times with Onan Emergency Electricity. *Operation is completely automatic.* When highline power is interrupted, the plant starts automatically; stops when power is restored.

Models for any size hospital—1,000 to 75,000 watts A.C.

Complete standby systems at lower cost



Onan Vacu-Flo cooling permits using air-cooled models in many installations at a considerable saving. Check Onan before you specify.

See our Catalog in Sweet's

Onan ELECTRIC PLANTS

Write for engineering data

D.W. ONAN & SONS INC.

2667 University Avenue S.E.
Minneapolis 14, Minnesota



Westminster Properties Inc. Building
166 East 66th Street, New York City
Architects: Kokkins & Lyras
Mason Contractor: Sal Vio Masons

536

SPICE, by Hanley Duramic gives the Westminster Building in New York City a quiet dignity with understated vitality and excitement. Created for inventive architecture, Spice, Hanley Duramic 337, is a unique Pearl White with Brown light speck. It adds dramatic simplicity to contemporary and traditional design; it opens new dimensions of color and texture. As with all Hanley Duramics, striking beauty and individuality are burned into the building strength of quality brick. For full information call or write your nearest Hanley office for the architectural file on Hanley Duramic Brick and Tile.

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ESTABLISHED 1893

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INCORPORATED

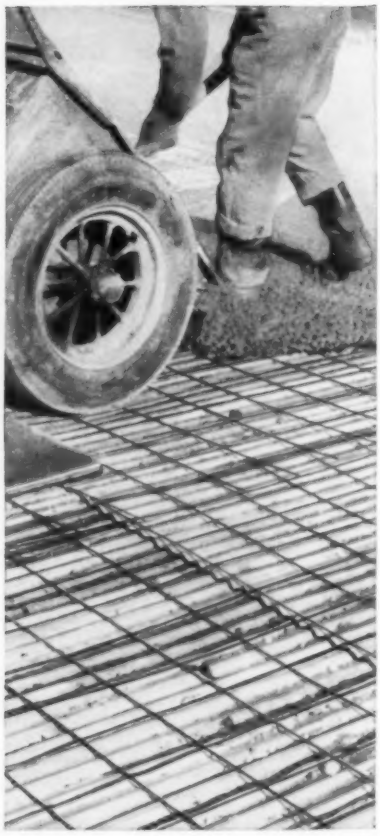
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EASY TO HANDLE. Light Corruform sheets span up to 30', are quickly welded or clipped to steel joists, can be easily cut to fit openings.



ROLL OUT MESH. Corruform in place offers an immediate, safe work platform, withstands normal construction abuse, adds stiffening to joists.



FAST CONCRETING. Rigid Corruform sheets permit slab to be cast and finished in one operation. The finished slab is ready for floor covering.

Have you ever seen a faster, easier way to construct reinforced concrete floors?

Secure Corruform® to joists . . . roll out mesh . . . place concrete. That's all there is to it! Corruform corrugated steel base makes cast-in-place floor slabs strong, safe, easy to erect because Corruform sheets are light yet nearly *twice as strong* as ordinary steel of comparable weight. The minute Corruform is down, you can walk on it, work on it. Rigid sheets resist dents and punctures, distribute loads, eliminate pull on joists, provide a tight, solid base for concrete. And because Corruform is 100,000 psi steel, it carries concrete over joists without sag, stretch, bend or leakage. Sheets retain cement paste, speed finishing, assure true and level finish. Corruform has been used extensively throughout the U. S. on almost every type of building. Stocks available from coast to coast. Get more information by writing Granco home or district office. ATTN.: Dept. R-710.

CONCRETE YOU SAVE PAYS FOR CORRUFORM

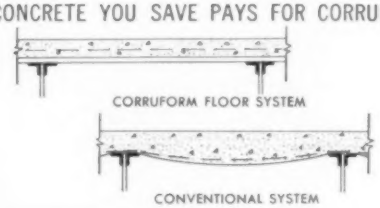


Diagram shows how Corruform stays level, saves about 20% or more in concrete over "flexible type" centering.

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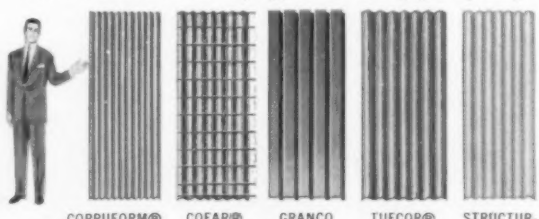
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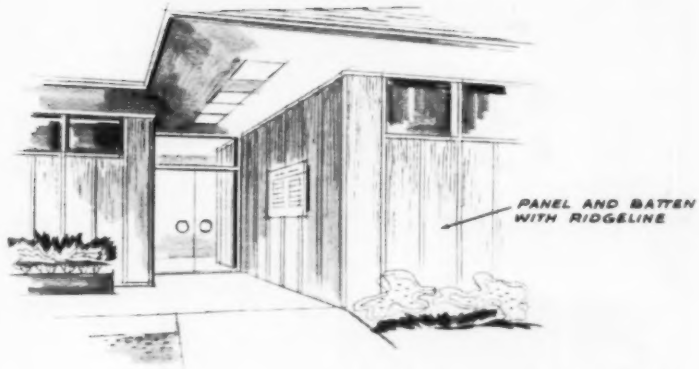
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Popular on the West Coast, the panel-and-batten exterior has become enthusiastically accepted everywhere. Masonite Ridgeline®, with its combed textured surface, takes paint or stain with equal effectiveness.



There's a warm, "homey" look to Masonite® Shadowvent® Siding that your clients will appreciate. No defects —beautiful surface, wide exposure, and no nails are exposed!



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3 HOW TO SOLVE THE BIG PROBLEMS of Heating System Design



KEEP COSTS DOWN

The cost of Reznor unit heaters is comparable to or lower than that of other types of equipment of equal heating capacity. And with Reznor, this is the total cost. You don't have to add the costs of extensive piping and valves or duct work, and of radiators or registers. Reznor gas unit heaters produce and distribute heat at the point of need. To install them involves only suspension, venting and utility connections. So installation costs are much lower than those of central heating systems. Lower equipment cost . . . lower installation cost . . . two reasons why Reznor gas unit heaters can offer substantial savings on heating systems for so many commercial and industrial buildings.

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Reznor gas unit heaters are installed up at the ceiling, completely out of the way. When you design for a store or factory, you don't have to allot a single square foot of valuable space for heating equipment . . . and you don't have to keep floor or wall areas clear for radiators or registers.

INSURE FLEXIBILITY

When you specify Reznor gas unit heaters you don't have to choose between a heating plant which is over-sized and over-priced for current requirements and one which may not be adequate for future needs. With Reznor unit heating, when that new wing is added, additional heaters are installed. It's as simple as that. And in the case of internal remodeling, it's very easy and inexpensive to relocate the existing heaters.

ONLY REZNOR GAS UNIT HEATERS OFFER ALL THESE ADVANTAGES



- Clean, modern design, back as well as front . . . all controls and connections inside the cabinet.
- FlexiTemp control system with automatic two-speed fan control to provide nearly continuous air circulation and minimize temperature fluctuations (optional).
- No costly frills and gadgets . . . features which are needed only to meet special situations always separately listed and priced.
- Fan or blower models in ten sizes from 25 to 300 thousand BTU.

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for complete details, wherever you are . . .

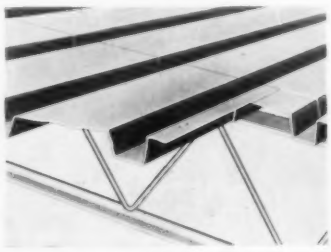
Look for Reznor under "Heaters-Unit" in the Yellow Pages

PRODUCT REPORTS



Streamlined Cooling Tower

By using "jet action" to force air through it, a new trim looking cooling tower with simple columnar lines eliminates trouble-making mechanical and electrical apparatus as well as the wooden slats and baffles used in most conventional cooling towers. Air movement and cooling are accomplished by a system of water-jet nozzles which spray downward from the top of the tower. The draft created by the downward jet of water moves a large volume of air through the tower; the fine spray gives better mixing of air and water particles, with resulting high cooling efficiency. To protect its metal surfaces, the *Jet Action* cooling tower is plastic coated inside and out. It comes in sizes for residential and small commercial air conditioning systems. *Koch Engineering Co., 321 W. Douglas, Wichita, Kansas.*

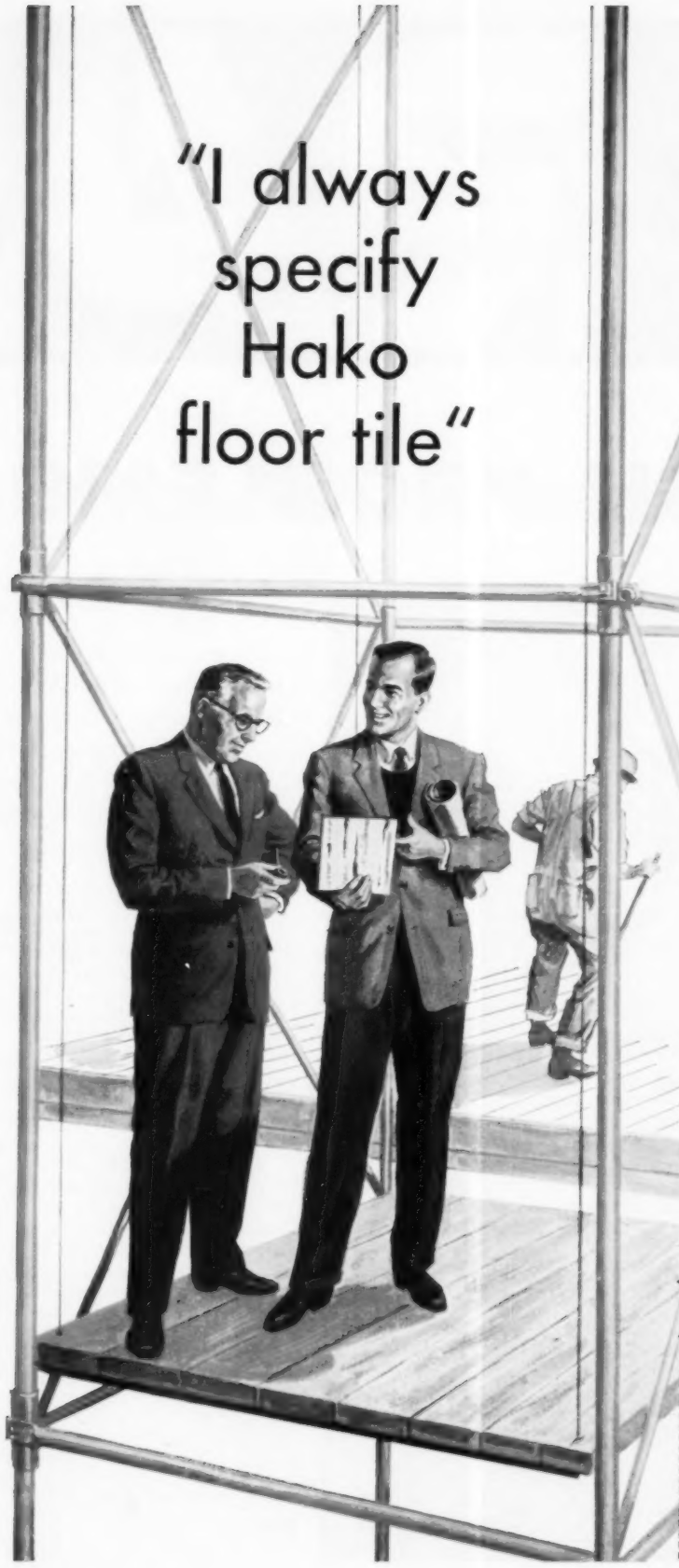


Steel Roof Decking

Ferrobord lightweight steel roof decking is now available in a 24 inch width designed to speed erection. Roll formed from 18, 20 and 22 gage cold rolled steel strip, copper-bearing steels or tight coated galvanized steel, the roof deck comes in units 1½ in. deep and up to 32½ ft long. The deck is welded directly to the steel purlins; adjacent sheets are interlocked and fastened by means of button punching to assure maximum transfer of loads. *Truscon Steel Div., Republic Steel Corp., Dept. SL, Youngstown, Ohio.*

(More Products on page 254)

"I always specify Hako floor tile"



Building owner:
"Traffic on some floors will reach a couple of thousand a day. Plenty of cleaning, too."

Architect:
"Want to settle that problem? And save money, too?"

Building owner:
"You're talking my language. Got an answer?"

Architect:
"Sure do. I recommend Hako Vinyl-Asbestos tile. It's tough. It's economical. Stands up to cleaning — and cleans easy."

Building owner:
"Don't forget that I want this building to have a class look."

Architect:
"Hako will give it to you. The right choice of color and the right selection of floor patterns — you'll get a class look."

Building owner:
"Why Hako?"

Architect:
"Me, I like to be sure. Hako Vinyl-Asbestos or asphalt tile gives the kind of satisfaction I want my clients to have. That's why I always specify HAKO."

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HA-1

CRA

3 TOUGH PROBLEMS



1.

Curved wall. *Look how neatly Type RC Sunnybase can be installed around curves. No decorating problem, either. Drapes hang to floor, no wall or floor space lost to radiators or registers.*



2.

Chilly corner. *This corner, exposed to stiff northwest winds, has the only free wall space in the room for heating. Sunnywall Type R in tiers provides ample heat and an attractive installation.*

NE THE QUALITY HEATING

that Crane Sunnybase Radiation made easy

You can tell by these pictures that Crane Sunnybase Radiation is more than an ordinary hot water heating element. It's a complete line of radiant baseboard in styles and sizes for any kind or shape of room, any type of home. It's decorative, takes little space, and is easily installed.*

Just as important to your clients, Crane Sunnybase gives heating that feels like sunshine. Healthful warmth that radiates to every corner. No drafts. No hot or cold spots.

Next time you use hot water heating for any home, specify Crane Sunnybase. And remember, the perfect mate to Sunnybase: Crane Sunnyday Boilers, so dependable their sections are guaranteed 20 years. (In plumbing, too, specify Crane quality.)

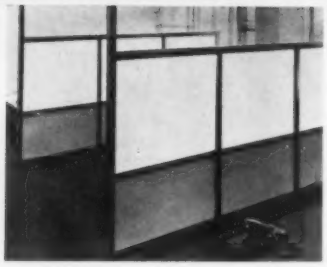
**Not shown: Sunnybase Copper Tube Type F for floor-level installation. Also Sunnywall High Capacity Radiation with copper or steel elements for commercial installations.*



3. *No wall space for radiators or registers in this well-planned kitchen—except at the* ceiling. *So that's where Sunnybase Type R Radiant Baseboard is installed. Crane Type R Baseboard is the only one in the industry that can be installed in this manner.*

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836 South Michigan Avenue, Chicago 5
VALVES • FITTINGS • PIPE • PLUMBING
KITCHENS • HEATING • AIR CONDITIONING

PRODUCT REPORTS

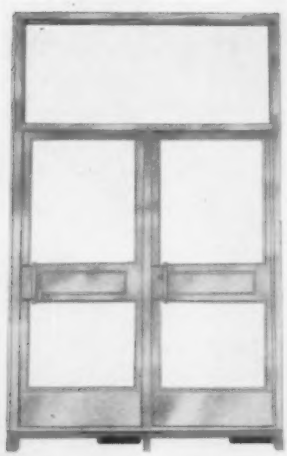


Colored Safety Glass

Colorspan, a shatterproof safety glass in a wide range of opaque colors, is currently being introduced as a decorative, practical panel material for interior partitions. The permanent fadeproof colors are obtained by laminating a thin sheet of pigmented vinyl between two sheets of window glass, producing two usable sides on each panel. At present, the material comes in thicknesses of from $^{13}/_{64}$ to $^{1}/_{4}$ inch, and stock sheet glass sizes up to 46 by 94 inches. Available colors include royal blue, moss green, tangerine, gun metal gray, walnut, kelly green, yellow gold, white, pearl gray and claret. *Mondial United Corp., 625 Madison Ave., New York, N. Y.*

America's New Schools Can Have
Strong, Student-Safe, and Attractive Alumilited* Aluminum Entrances with

ALUMILINE CENTER PANEL DOORS



Alumiline Factory Prefabricated Narrow Stile Center Panel Doors. Note concealment of Panic Crash Bar.

STRENGTH

- Horizontal mullions *reinforced* and *welded* into place for greater strength.
- Heavy alumilited aluminum sheet glazed into center panel.
- Corners of doors completely welded with heavy machined reinforcements.

STUDENT SAFETY

- Student safety provided by extra protection of high strength center panel.
- Protects against injury from glass breakage should student's hands slip from panic crash bar.
- Tempered glass can be specified for the bottom glass light (kick area).

ATTRACTIVE DESIGN

- Mullions fabricated of same sections as door rails to present smooth, clean lines across the door, concealing panic crash bar.
- Alumiline Center Panel Doors available in narrow stile and wide stile construction.
- Aluminum sheet in center panel glazed in same plane as upper and lower glass openings to carry glass line throughout.

Photo shows Alumiline Entrance of East Greenwich High School. Architects: Harkness, Albert, & Peter Geddes Associates, Providence, R. I.



For Alumiline Center Panel details and further information, and catalogs describing Alumiline's wide variety of standard and custom architectural aluminum products, write to:

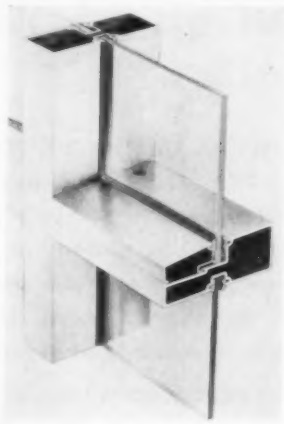
The ALUMILINE CORPORATION

Dept. R, Dunnell Lane, Pawtucket, R. I.

*Trade Name Aluminum Company of America

Low-Friction Bearing Plate

A new cost-cutting development has made *Oilite*, an oil-impregnated bronze long used for permanently lubricated machine parts, practical for use as low-friction bearing plates for buildings and structures which require sliding connections. Although its relatively high cost in the sizes and thicknesses required for bearing plates has heretofore prohibited large scale use in construction, the product is now available at sharply reduced cost as a 1/16 or 3/32 in. layer bonded to a steel plate of the required thickness. Shear strength of the bond plane is said to be 1700 psi; the coefficient of static friction for steel on *Oilite* is 0.10. *Beemer Engineering Co., 401 N. Broad St., Philadelphia 8, Pa.*



Fixed Glazing System

A new building front and wall system uses only a few standardized components to provide almost unlimited design freedom at minimum cost. Called *Narrow Line*, the system employs slender ($1^{3}/_{4}$ in. wide by $4^{1}/_{2}$ in. deep), extruded aluminum framing members which act as door frames, permit glass to be set straight or at an angle, and accommodate glass sections around any angle of a building front. In addition, they can hold colored wall panels of various other materials which may be used in combination with the glass. Said to be the first fixed glazing system to offer flush glazing on all sides of a glass pane, *Narrow Line* features built-in glass-holding channels in all its components, making protruding glazing members unnecessary. The use of vinyl plastic glazing strips eliminates many of the problems caused by putty-held glass, although both putty and glass stops may be used if desired. Components are supplied in a polished alumilited finish, in standard 21 ft lengths or cut to size. *Kawneer Co., Niles, Mich.*

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Norman Three Sixty®
for heating large areas in schools



a gas-fired forced convection overhead unit with sealed combustion system, exclusive electric ignition, forced exhaust and 100% outside air for combustion.



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Schoolroom System

a fully automatic gas-fired, forced air heating and ventilating system for individual classrooms with outside air only used for combustion.

When you check into the comfort performance of the gas-fired, forced air Norman Schoolroom System, you'll also find important advantages for economy in school construction.

With the Norman classroom package, no interconnecting supply and return mains are needed . . . no extra space or separate building for a central heating plant in new schools . . . no revamping of the heating plant in school additions.

Installation wise, Norman simplifies the complete job — even furnishes the outside weatherproof grille in the classroom package.

See Sweets Architectural File 29b/No

Norman® products company

Once installed, the Norman Schoolroom System assures fully automatic perimeter forced air heating and ventilating for health and comfort from start to finish of the school year.

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WORLD'S LARGEST MANUFACTURER OF

PERFECT PATTERN FOR MODERN DESIGN

Beautiful Misco Wire Glass Protects Passengers in Concourse Partitions and Doors at New Lambert-St. Louis Air Terminal

Acclaimed for outstanding design, the new Lambert-St. Louis Air Terminal achieves beauty and utility . . . employs so many modern ideas and materials. Misco Wire Glass, with its distinctive diamond-shaped, welded wire netting, is used extensively in partitions and doors of the heavily-travelled concourses. Misco meets the test of traffic at these vital points, withstands the press of crowds, affords a fresh concept of wire glass design that adds beauty to function.

The unusually attractive pattern of this wire glass, so perfect in modern design, enhances the crystal clarity of the dividers . . . fits the modern decor of the entire terminal.

Misco Wire Glass has so many uses in today's structures . . . in doors, windows, skylights, partitions. When you build or remodel, specify glass by Mississippi. Available in a wide range of patterns and surface finishes wherever quality glass is sold.

Write today for free catalog 57-G. Address Department 7.

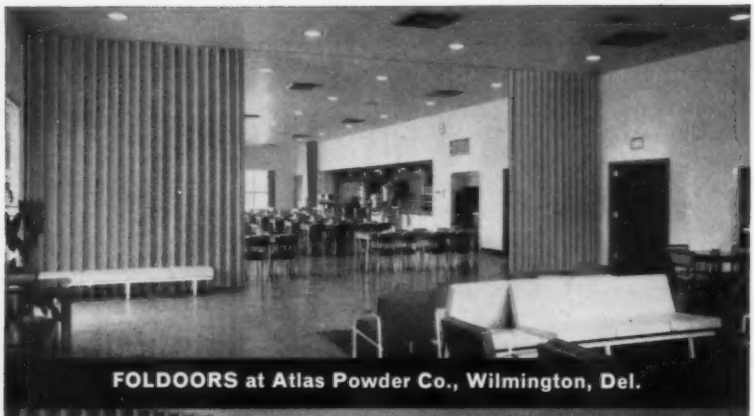




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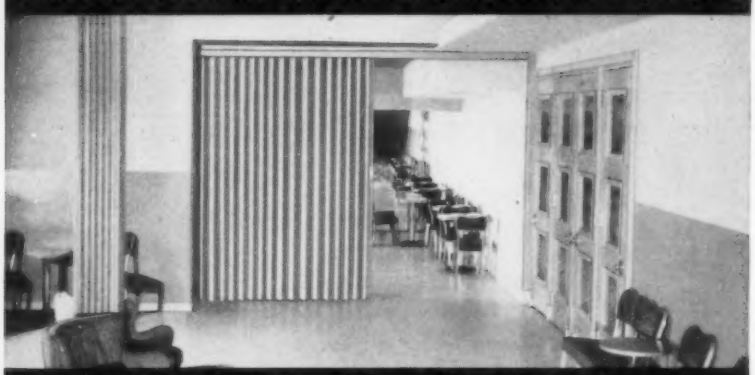
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HOLCOMB & HOKE
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THE SMARTEST THING IN DOORS

OFFICE LITERATURE

(Continued from page 214)

Asbestos-Cement Roof Shingles

Fifteen-page manual includes detail drawings and instructive text covering every aspect of asbestos-cement roof shingle application. *Asbestos-Cement Product Assoc., 509 Madison Ave., New York 22, N. Y.*

Portfolio of Decorative Lighting

(A.I.A. 31-F-23) Brochure No. 19 presents photos, descriptions and dimensional drawings of Lightolier's latest fixture collection. 32 pp. *Lightolier, Inc., 346 Claremont Ave., Jersey City, N. J.**

Color Symphony for School Interiors

Suggests appropriate color schemes for 25 different areas in a typical school, with actual paint chips of recommended colors. Interior and exterior specifications for all surfaces are also included. 50 pp. $1. *O'Brien Corp., South Bend 21, Indiana.*

Air Diffusion Selection Manual

(A.I.A. 30-J) Catalog 1-57 describes and illustrates complete line of grilles and registers, with photographs, drawings and selection tables for each of 26 standard sizes. 66 pp. *Waterloo Register Co., Inc., P. O. Box 72, Waterloo, Iowa.*

Commercial Refrigeration

Catalog BU-1 presents technical data, product information and specifications for Bohn's line of commercial refrigeration equipment. *Betz Div., Bohn Aluminum & Brass Corp., Danville, Ill.*

Heating, Cooling, Air Conditioning

Describes full line of *Hydraline* heating, cooling and air conditioning equipment with specifications and performance data on all units. 8 pp. *Industrial Div., York Corp., York, Pa.*

Inspiration Lighting

Fifty-three page catalog M-163 describes and illustrates complete line of residential lighting fixtures. *Moe Lighting Div., Thomas Industries Inc., Louisville 2, Ky.*

Guide for Permanent Colors

(A.I.A. 15-M-1) *Porcelpanels* Color Chart illustrates 36 standard plain and mottled colors available in veneer or curtain wall porcelain enamel. *Ingram-Richardson Mfg. Co., Beaver Falls, Pa.**

(More Literature on page 262)



Forty-building luxury apartment development located in New York City gained 160 extra rental units using nailable joists. Builder: Alfred Levitt.



Cleveland's Parkland, $50,000,000 residential and shopping community, gets its good looks with ribbed decking. Project developer: Don Loftus. Architect: W. E. Harris.



Large modern warehouse, Oakland, California, is completely enclosed and insulated with curtain wall panel. Owner: Bigge Drayage Co. Engineers: D. Y. Long Co.



Kemline, Inc., manufacturing plant in Edgely, Pennsylvania, uses specially fabricated "C" section trusses for wide-span flat-roof structure.

Now a complete structural system—

Stran-Steel joists, columns, decking and curtain wall

Stran-Steel now offers a complete structural system with fully integrated components—nailable joists and studs, structural columns and beams, new wide flange structural shapes in eight sizes, roof decking and the beautiful new metal curtain wall panels with *Stran-Satin* finish.

Stran-Steel's complete structural system offers these advantages to the architect and owner:

VERSATILITY—Many structural variations are possible with this versatile system in the design of walls, roofs, partitions, canopies, floors, even entire buildings.

ECONOMY—Savings in the use of steel architectural products mean more economical construction, resulting in lower bids to fit budget limitations.

STRENGTH—Stran-Steel nailable joists, for example, have a yield point of 40,000 p.s.i., approximately 20% higher than that of most commercial mild steel. This extra-strength weight advantage prevails throughout the range of these products.

Stran-Steel products are ideal for schools, apartments, shopping centers and industrial plants.

Stran-Steel

STRAN-STEEL CORPORATION
Detroit 29, Michigan • Division of
NATIONAL STEEL CORPORATION

Here's where you can get more information:

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Chicago 6, Ill., 205 W. Wacker Dr., **Financial 6-4950**
Cleveland 16, Ohio, 20950 Center Ridge Rd., **EDison 1-3834**
Detroit 29, Mich., Tecumseh Rd., **Vinewood 3-8000**
Houston 5, Texas, 2444 Times Blvd., **JAckson 6-1628**
Kansas City, Mo., 6 East 11th St., **BAltimore 1-8892**
Minneapolis 4, Minn., 708 S. 10th St., **FEderal 9-8875**
New York 17, New York, 405 Lexington Ave., **Murray Hill 6-1400**
San Francisco 3, Calif., 1707 Central Tower Bldg., **DOuglass 2-1200**
Washington 6, D. C., 1025 Connecticut Ave., N.W., **EXecutive 3-4214**

Stran-Steel Corporation, Dept. 23-40
Detroit 29, Michigan

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☐ Please have your representative contact me.

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between modern facilities and a nearby colonial town...

The Williamsburg Motel of



Installation: "Motor House" for Colonial Williamsburg, Williamsburg Restoration Inc.
Architects: Colonial Williamsburg Staff: A. Kendrew, M. Campioli, E. Frank; Consultants: Harrison & Abramovitz.
Interiors: Tom Lee, Ltd.
Problem: To find a durable, beautiful surfacing material for a setting modern as tomorrow!
Solution: *Micarta decorative plastic surfacing!*

The restoration of 18th Century Williamsburg by John D. Rockefeller, Jr. has made this charming, colonial town one of America's prime tourist attractions. Inevitably, however, Colonial Williamsburg faced a common 20th Century problem — that of accommodating the steadily increasing number of visitors. A contemporary "Motor House" was decided upon, setting a unique problem for interior designer Tom Lee: where to find a surfacing material that could take the abuse of thousands of guests, yet meet exacting aesthetic requirements?

The solution? Most horizontal surfaces in this astonishingly lovely group of buildings are covered in carefree *Micarta!* Desk tops, mirror frames and the smart "open" bureaus in 200 guest bedrooms are in lustrous Micarta beige or birch; tables and writing desks in the foyers, and room dividers, tables — even tray carts for bussing in the 400-seat cafeteria — are surfaced in warm, rich *Micarta* natural walnut!

Designer Tom Lee cites a simple reason for specifying Micarta: "Micarta is aesthetically pleasing and also the answer to a great many design problems. It's easy to clean and practically indestructible. And one never has to worry about that 'institutional' look."

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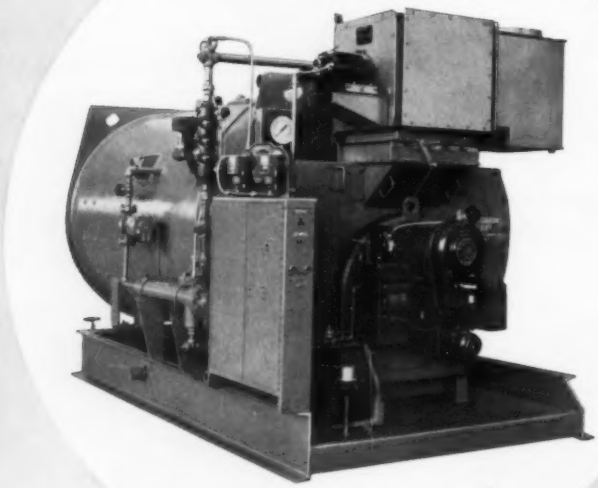
Smart "open" bureaus, surfaced in Micarta beige, were especially designed for the 200 guest bedrooms.

Contemporary bureaus, mirror frames and cocktail tables are also in Micarta beige or birch.

Room dividers, tables, even tray carts for bussing are in rich, lovely Micarta natural walnut!

You Can Make Your Interiors Modern with Micarta! In stores, offices or restaurants — wherever beautiful surfaces must take abuse — *Micarta* is the answer! See the proof in *Micarta's* colorful new 12-page Commercial Interiors Book. Just write United States Plywood Corporation, 55 W. 44th Street, New York, 36. We'll send your copy right away.

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For detailed information about this boiler — catalog sheets, brochures, and specifications — write today to the Fitzgibbons Boiler Company, address below.

Full wet back construction provides complete water jacketing of the entire rear combustion chamber. There are *no* refractory arches or walls to deteriorate and replace. Fitzgibbons has always pioneered this design.

Sizes up to 464 horsepower for oil or gas firing are available. *All* units are *factory tested* before shipment.

This is a complete unit — a "Scotch" type steel boiler with burner, fully automatic controls and safety devices, and the induced draft fan for cleaner, quieter operation at high efficiency without a stack.

Domestic hot water supply for any purpose is constantly and effectively furnished through the famous Fitzgibbons "Tanksaver"® — a finned, copper coil submerged in the boiler where the water is the hottest.

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SINCE 1886 — MOST ECONOMICAL IN USE — THE FITZGIBBONS BOILER

FB110

OFFICE LITERATURE

Powder Actuated Tools

Recommended uniform state code is designed to serve as a guide in developing regulations governing the safe operation of powder actuated tools using studs, pins and fasteners. 8 pp. *Powder Actuated Tool Manufacturers' Institute, 250 East 43rd St., New York 17, N. Y.*

Revised Specifications

. . . for Gold Seal Floors and Walls (A.I.A. 23G) gives up-to-date specifications for *Gold Seal* floor and wall products, including two new products in the line. 20 pp. *Congoleum-Nairn, Inc., 295 Fifth Ave., New York 16, N. Y.**

Aluminum Window Specifications

A recent addenda to the specifications of the Aluminum Window Manufacturers Association changes the wording of some window specifications and lists manufacturers whose products meet AWMA requirements. *Aluminum Window Manufacturers Association, 75 West St., New York 6, N. Y.**

Gerber Plumbing Fixtures Catalog

Describes and illustrates complete line of Gerber plumbing fixtures, with photographs, technical data and dimensional drawings. 96 pp., *Gerber Plumbing Fixtures Corp., 232 N. Clark St., Chicago 1, Ill.*

RLM News Letter Service

Periodical news letters on developments in industrial lighting standards, specifications etc. to be released as issued. *Editor, RLM Industrial Lighting News, Suite 818, 326 W. Madison St., Chicago 6, Ill.*

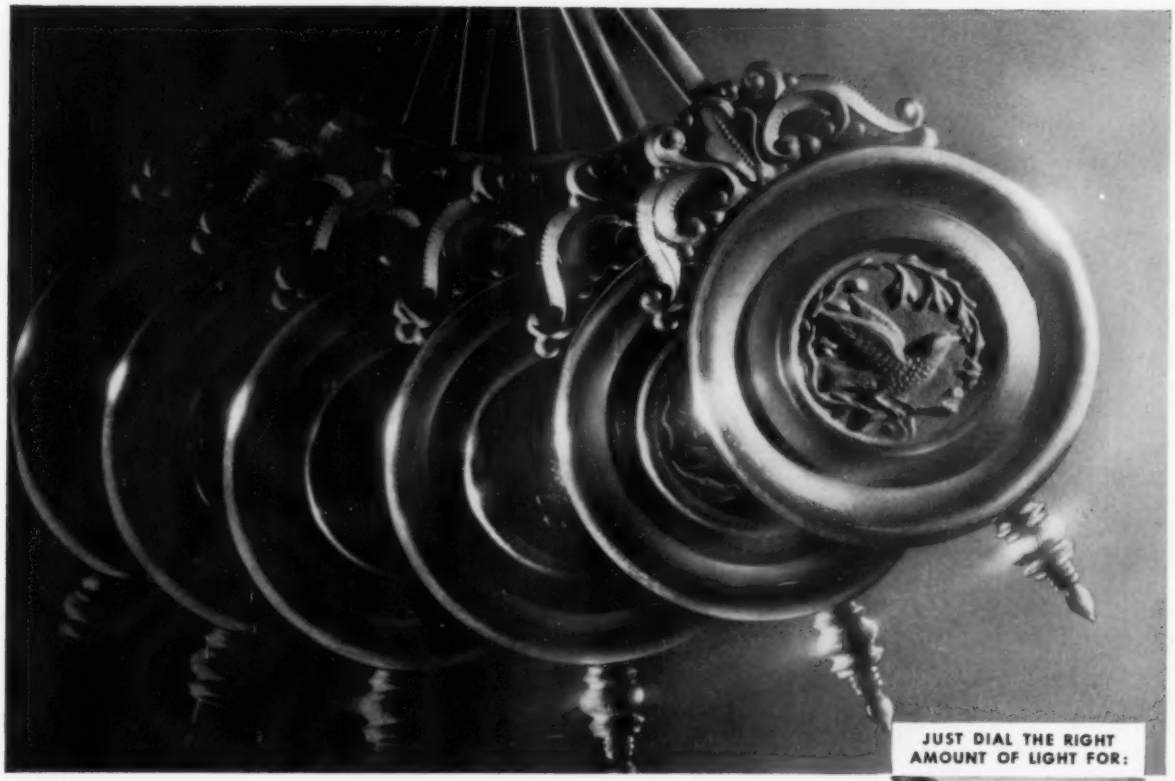
Low Voltage Control

Twelve-page manual discusses the advantages of the *LV* low voltage method of switching lighting and appliance loads, and gives typical installation wiring diagrams, information on components and sample specifications. *Square D Co., 6060 Rivard St., Detroit 11, Mich.*

Copper Pipe and Tubing

(A.I.A. 29-B-4) New 1957 catalog offers technical information, design data and specifications for complete line of copper tubing and brass and copper pipe. 30 pp. *Reading Tube Corp., Empire State Bldg., New York 1, N. Y.*

(More Literature on page 266)



JUST DIAL THE RIGHT AMOUNT OF LIGHT FOR:



LUNCH, COCKTAILS, DINNER



THE TYPE OF MEETING



THE TIME OF DAY

LUXTROL Light Control Provides Interiors with the Dimension of **TIME**

No longer do you have to think in terms of static interiors. Hour by hour you can now vary the emotional stimulus of your decor. You can set the mood you want *at the time you want it* throughout the day or night with "all level" lighting. You can add the dimension of TIME to your interior design.

For restaurants this means you can have customers linger and spend more . . . or hurry and make way for others. For stores it means the exact light level for each individual window or display. For offices it sets the mood of the meeting . . . provides proper light contrast with outside light levels. For churches and funeral homes it becomes a part of the service. Just to mention a few.

LUXTROL light control equipment can be used on incandescent, fluorescent and cold cathode lamps. In the complete line you will find units to meet all requirements from 360 to 30,000 watt loads. Send coupon for more information.

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Non-Interlocking Types When only a few circuits require control. Capacities from 1000 to 30,000 watts.



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Steeltex eliminates costly pre-construction engineering required by other centering materials. It gives clean, dependable reinforcing form in any lengths needed regardless of variation in joist spacing. Steeltex is light, easy to handle.

Steeltex speeds college construction

Contractors tell of money-saving advantages gained from Pittsburgh Steel's floor lath on Purdue and University of Kentucky jobs

The critical need for new school buildings to handle our expanding population is also acute on college campuses.

At Purdue University and University of Kentucky, where married veterans and their families are crowding housing facilities, big construction programs are underway. At both universities, Steeltex wire mesh reinforcing floor lath was specified by architects because it helps achieve the most value for each construction dollar.

Purdue is engaged in a $9½ million project to house married students in a unique 58-building development located on a 30-acre site at the edge of the West Lafayette, Indiana, campus.

In Lexington the University of Kentucky is building the $2 million Shawneetown married students and faculty housing project on a 10-acre site adjacent to the campus to provide 186 apartments for married students and faculty members.

In Indiana, since economy of construction was an important factor to university authorities, Architect John R. Diehl of Fairless Hills, Pennsylvania, specified Pittsburgh Steel Products' Steeltex, the reinforcing that carries its waterproofed form right on its back.

The 370,000 square feet of Steeltex, used to cover joists on the first and second floors of the units, will return substantial savings in time and money while assuring durable concrete floors.

John W. Galbreath & Co., Columbus, Ohio, teamed with Turner Construction Co. of New York City to form Galbreath-Turner, general contractors for the construction.

Earl Wooten, superintendent for Carl Vestal, Inc., Indianapolis, sub-contractor who installed the Steeltex, gave this estimate of the time saved by using Steeltex to cover 370,000 square feet of floors.

"If we had used another material, each of these 58 buildings would take six days and require 20 men's services. With Steeltex, however, we needed only one and one-half days and the services of five men for each building."

Similar commendation came from the Kentucky project where Ben Landin, general superintendent for the Hargett Construction Co., of Lexington, said:

"I like Steeltex because of the installation speed. If we had to use a reinforcing material that required wooden forms, it would call for a heavier slab—about four inches thick. But with Steeltex, we need only a 2¾-inch slab which gives us lighter-weight construction.

"Another advantage is that Steeltex provides lateral stability for the joists. A stronger structure is the result.

"I believe that Steeltex is far superior to any other type of material for fitting around irregular-shaped objects quickly and snugly. We don't waste as much concrete and we complete the job faster."

And Lewis H. Hargett, president of the contracting firm, cited these Steeltex advantages: "It's economical, it's convenient to install and the men on the job don't need any special training to install it."

He added, "In recent years, we've used several hundred thousand square feet of Steeltex and found it completely satisfactory. After checking the cost of Steeltex over other materials, we find there is a definite saving per square foot in using Steeltex."

These same advantages can work for you when you use Steeltex, sold by the Pittsburgh Steel Products Division of Pittsburgh Steel Co. Start pocketing these savings now. You can do that by picking up your telephone now and getting in touch with one of the trained engineers waiting to help you in each of the district offices listed below. Do it today.

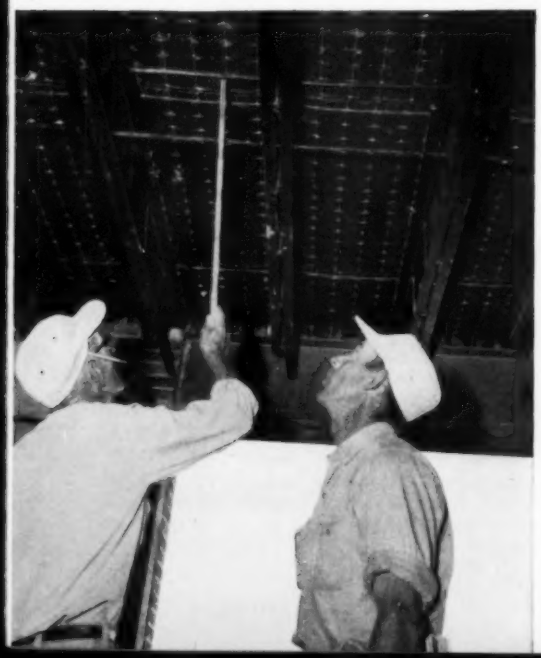


Pittsburgh Steeltex is installed faster than alternate materials. Here it's being installed at the University of Kentucky's housing project.



Steeltex fits around irregular piping, vents and projections. Easy to cut, it speeds construction and saves money.

Superintendent Ben Landin (left) of Hargett Construction Co. points to clean, neat appearance of Steeltex under concrete slab to Superintendent Jim League, Whalen Erecting Co. which installed Steeltex.



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instead of this



High bay lighting with Abolite is easier on the eyes

• In high bay lighting, Abolite open-top units eliminate uncomfortable contrast of bright lamps against dark background. 18% of the light is directed upward through Abolite's open top, washes out the deep shadows, gives lamps a soft background. 35° shielding of the lamp practically eliminates glare.

Open-top design also gives Abolite high bay units a self-cleaning action. Air circulates through the fixture, sweeps the reflecting surface clean, reduces lamp operating temperatures. As a result, lighting efficiency remains high, lamps last longer.

There are three Abolite uplight units for high bay lighting: 18" and 24" diameter Alzak fixtures for use with 400 and 1000 watt mercury lamps and 18" Alzak fixtures for 500 watt incandescent lamps (ideal for gymnasium lighting). For full details, write Abolite Lighting Division, The Jones Metal Products Co., West Lafayette, Ohio.



ABOLITE *Lighting*

OFFICE LITERATURE

Sirocco Utility Sets

Bulletin 8314 illustrates and describes size ranges and configurations of fan wheels and motors available in *Sirocco* Utility Sets. Capacity tables, installation drawings and specifications are included. 52 pp. *American Blower Div., American-Standard, Detroit 32, Mich.**

Automatic Controls

. . . for Heating, Air Conditioning and Refrigeration covers the complete line of White-Rodgers temperature controls, with technical information and illustrations for each model. 40 pp. *White-Rodgers Co., 1209 Cass Ave., St. Louis 6, Mo.*

Aluminum Bar Curtain Wall System

(A.I.A. 17-A) Includes information on design features, erection procedures, glazing method and types of spandrel panels acceptable, along with complete details for the new *Geyser* aluminum bar curtain wall system. 8 pp. *E. K. Geyser Co., 915 McArdle Rdwy., Pittsburgh 3, Pa.**

Electric Generating Plants

Revised "Blue Book" compares various types of engine driven electric generating plants, and summarizes important points to be remembered in their selection. *D. W. Onan & Sons, Inc., Minneapolis, Minn.**

Fir Plywood Construction Guide

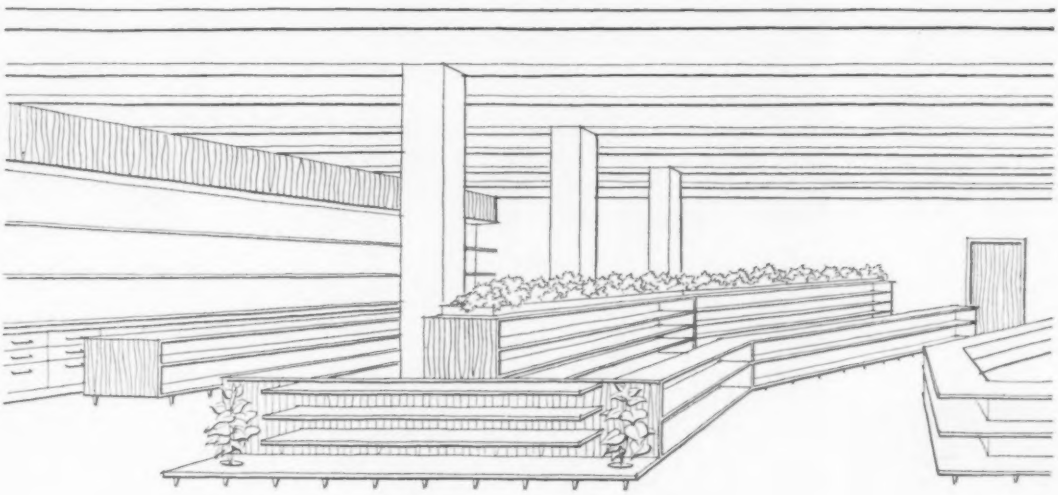
Provides reference drawings on principal plywood applications, supplemented by span-thickness data tables and condensed specifications. 32 pp. *Douglas Fir Plywood Assoc., 1119 A St., Tacoma 2, Wash.**

Low Temperature Pipe Covering

Gives sizes, prices and a comprehensive ordering guide for *Styrofoam* pipe covering, fitting covers and vessel-tank insulation. *Glo-Brite Products, Inc., 6415 N. California Ave., Chicago 45, Ill.*

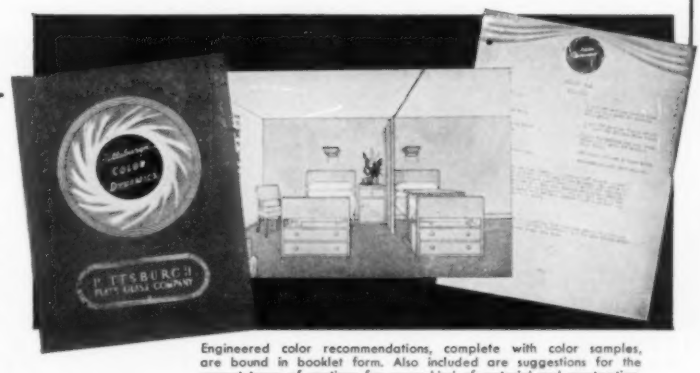
Packaged Light Control

(A.I.A. 31-F-25) Bulletin L175P gives full information on features, ratings and data for the *Luxtrol* line of self-contained packaged light control assemblies for dimming, brightening and blending of individual circuits in theatres, churches, restaurants and similar installations. 28 pp. *The Superior Electric Co., Dept. 157, 83 Laurel St., Bristol, Conn.**



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Engineered color recommendations, complete with color samples, are bound in booklet form. Also included are suggestions for the correct types of coatings for every kind of material and construction.

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For Additional information on COLOR DYNAMICS see Sweet's Architectural File, Section 14/Pl.

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☐ Please have your representative provide us with further information about Pittsburgh's free COLOR DYNAMICS engineering service for architects.

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**Student Union Building,
Montana State University,
Missoula, Montana,**

uses glulam arches and purlins to provide attractive, post-free area for dining room. Glulam beams frame the roof structure of adjoining wings.





Architects: Brinkman and Lenon, Kalispell, Montana. *Contractors:* Hightower and Lubrecht, Missoula, Montana.

GLULAM TIMBERS FOR COLLEGE BUILDINGS

***Permanence . . . Beauty . . . Economy . . .
Wide, Clear Spans***

—These qualities literally are built into your college buildings when structural framing is engineered glulam members by Timber Structures, Inc.

The three buildings shown here are typical proof. All provide long lasting, maintenance-free construction of fire-safe, and dimensionally stable timber. All have the warm, natural beauty of fine wood, and simple, forthright design which encourages economies in construction and upkeep.

Glulam timbers are capable of exceptionally wide spans. Beam applications have been made for spans in excess of 130 feet. Trusses and arches span up to 250 feet. Dome structures of 300-foot diameter are now in service. Even wider spans are both possible and practical.

For your next college building why not consider glulam timbers? Complete information is yours for the asking. Wholehearted cooperation is extended, including engineering assistance of the largest staff of timber specialists in the industry in whatever degree you desire. See your nearest Timber Structures representative, or write us for information and detailed literature.

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Offices in Ramsey, N. J.; New York City; Boston; Philadelphia; West Hartford; Cleveland; Charlotte; Chicago; Centerline, Mich.; Kansas City; Kirkwood, Mo.; Minneapolis; Des Moines; Wichita; Memphis; Dallas; Houston; Birmingham; Seattle; Spokane; Denver.

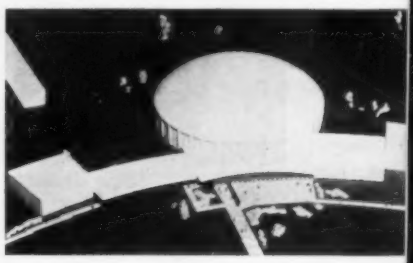
Local Representatives throughout the United States and Canada

TIMBER STRUCTURES, INC. OF CALIFORNIA
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Montana State College Fieldhouse, Missoula, Montana,

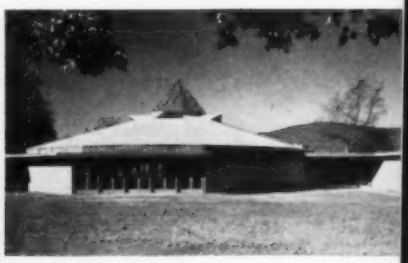
is 300 feet in diameter and 1-2/3 acres in area. Clear span roof is supported by a dome structure of glulam timbers. Rise of the dome is 50'-8⅞". Seating capacity for basketball is 12,500.



Architects: Willson and Berg, Bozeman, Montana. *Contractors:* Haggerty & Messmer Company, Bozeman.

Architect: Jan H. Pokorny, New York City. *Contractor:* Fred J. Brotherton, Hackensack, N. J.





Reeves Student Union Building, Centenary Junior College, Hackettstown, N. J.,

is framed by five Tudor arches of 100-foot span and 36 degree spacing. Canopy extends beyond sidewalls on seven of the ten sides.



laboratory job on the boards? a Hamilton Field Engineer can be a big help!

Every day, Hamilton Field Engineers are helping architects cut college laboratory costs with Hamilton standard units. Hamilton men have found, through experience with small and large installations, that 9 out of 10 custom laboratory jobs can make use of Hamilton standard units — ***at substantial savings in time and money!***

Why not get acquainted with your nearby Hamilton Field Engineer and the wealth of on-the-job experience he has to offer? There is no better way to complement your own laboratory planning resources! Write to us today, with no charge or obligation, for an appointment at your office, at your convenience.



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THE RECORD REPORTS
NEWS FROM CANADA

(Continued from page 46)

fees, however, shows a very different ratio.

"In effect, the profession has little business with the housing industry. The design of the very environment in which the urban population lives has benefited only in small part from your skills. With nearly 40 per cent of our population going to enter the housing market in the future, this situation calls for change.

"To claim your due place in the task of city making, you cannot neglect the housing part of the environment."

Following Mr. Bates, a five-man team of experts took the stage led by Prof. A. P. C. Adamson of the School of Architecture, University of Toronto. His colleagues were Prof. James A. Murray of the same institution; Prof. James T. Lendrum, director, Small Homes Council, University of Illinois; Angus L. McClaskey, president, Don Mills Developments Ltd., Toronto, and S. A. Gitterman, architectural advisor, development division, Central Mortgage & Housing Corporation.

Mr. McClaskey queried the merit of housing surveys based on consumers' tastes. Professor Murray agreed to the extent that "most women do not know what they want in a house."

Professor Lendrum observed that if house design were left to the wishes of the individual "we would still be living in caves." He said that architects must lead the way in the conceiving new and imaginative, yet practical, housing units.

The panel agreed that more multiple housing is needed since the space and cost of services for individual houses were rising too rapidly. "We will soon run out of countryside," Mr. Gitterman commented.

Mr. McClaskey argued that, as a former staff member of CMHC, he did not think the Corporation was doing enough advance planning for the people

(Continued on page 274)



VICTORIA THREESOME — John H. Wade with Mr. and Mrs. Patrick Birley

Weldwood News *for* Architects

UNITED STATES PLYWOOD CORPORATION

COLORFUL, PORCELAIN-FACED BUILDING PANELS OFFER NEW DESIGN OPPORTUNITIES



This bright store front will stay bright easily. Colors won't fade; limited maintenance required.

Weldwood Porc-Lin-Ply is weatherproof, easy to install

Here's a building panel that combines the beauty and durability of a porcelain-on-steel face with the moisture resistance of waterproof plywood. The name is Porc-Lin-Ply®. And it's not only beautiful and durable, but it's easy and inexpensive to install, too.

Porc-Lin-Ply's face is Architectural Porcelain Enameled Steel. It resists scratching, denting, marring, chipping and fading. Won't peel, crack or stain. It comes in black, white, and 7 standard colors.

The core of Porc-Lin-Ply is Weldwood exterior plywood, and that is backed up with rust-resistant metal for maximum stability. These extremely flat panels can be cut with ordinary power saws, and can be easily and inexpensively installed with special Weldwood extruded aluminum moldings.

Porc-Lin-Ply is finding wide use as fascias for exteriors of commercial buildings such as stores, gas stations and theaters, and for soffits, shower stalls, walls, ceilings and countertops. Every Porc-Lin-Ply panel, when properly installed, carries a complete guarantee against defective material and workmanship. Sizes: 36″ x 96″; thickness is 5/16″. Panel weight: 1.75 lbs. per square foot.

3 Good Reasons for Specifying Pine Plywood for Built-Ins

Today, more and more architects are specifying pine plywood for built-ins and cabinets. And with good reason, too.

First, for appearance! Weldwood California Pine Plywood has ideal painting qualities—no discoloration, less checking, less grain lift, and less paint needed to cover. That means a better looking product. Next, Weldwood California Pine Plywood is *all* pine, so it's easier to work, produces less edge-splintering. And Weldwood Pine has greater stability because of the lower moisture content during manufacture. Furthermore, it's made with exclusive, mold-resistant L-1R glue.

Weldwood California Pine is actually lower in cost than panels with equivalent paintability. And the superior finished product insures complete satisfaction for you, for the builder, and for the home buyer.

Overlaid Lap Siding Cuts Building Time and Costs



Workman installs special aluminum corners on Duraply-built home. Corners save construction time, cost only pennies—are available from United States Plywood branches.

Keeping siding costs down and quality up is the job for lap-cut Duraply®—the plywood with a special medium density fused overlay.

This permanent surface (phenolic resins and cellulose fibers) needs less paint than ordinary wood surfaces; is weatherproof. And Duraply lap-cut siding comes in big widths up to 16″ (96″ length) so less courses are needed to close in a house. Furring strips are preattached to bottom edge, and back-up wedges are included in every carton of 10 pieces. Duraply is EASY to work with ordinary power tools. Painted Duraply resists serious checking, won't develop paint blisters, no matter how severe the weather.

Architects' Service Dept.

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AR 8-57

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- ☐ Sample of Weldwood Pine Plywood
- ☐ #1413—Weldwood Duraply
- ☐ #1457—Weldwood Catalog (48 pages)
- ☐ Please have Architects' Service Representative call.

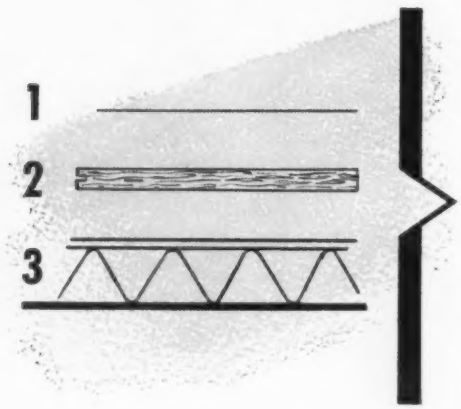
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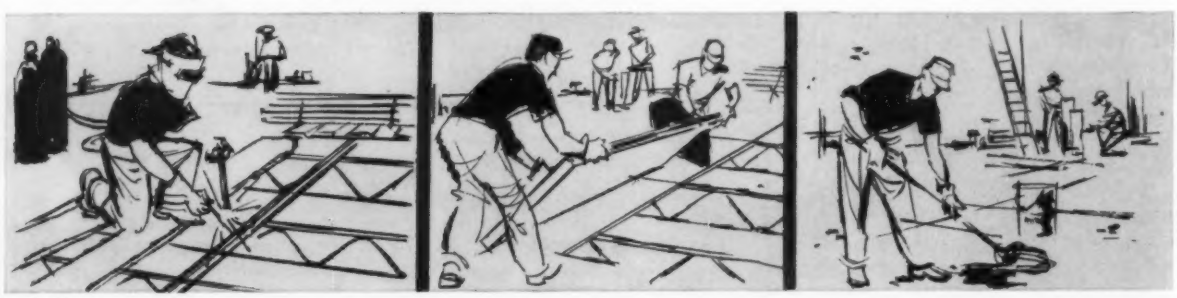
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HOW **Tectum** DECKS CUT BUILDING COSTS



In three relatively simple steps, deck and interior ceiling are completed when Tectum decks are specified. Exposed beam construction—the open concept—makes real savings possible for all types of building construction. And it makes sense: Tectum insulates, is acoustical, structural and noncombustible. Here in one operation, deck insulation and acoustical sound control system are installed, and the finished underside eliminates painting in the majority of cases. The beautifully textured surface created by the compressed wood fibers lends an attractive note to both private and public buildings.

Now, when rising costs are often causing the postponement of vital expansion plans, savings like this can mean the difference of continuing plans or shelving the project. The examples on the opposite page are typical case studies from our files. Making the most of the multiple advantages Tectum offers can cut costs for you, too. Ask your Tectum distributor for an estimate on the job you are planning and see how costs can be kept in line without sacrificing quality in any way.



First, structural system is installed which may be wood, prestressed concrete or steel. (Lightweight Tectum makes economical spans practical.)

Next Tectum is laid, quickly and economically over spans that are normally lighter due to Tectum's light weight composition.

Roofing felt is mopped into position. Built up roofing completes the deck and ceiling construction. Three operations and the job's completed.

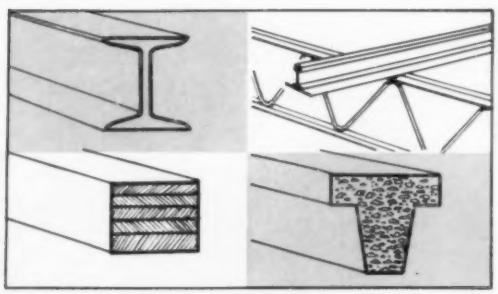


Jefferson Elementary School, Livonia, Michigan
Architects and Engineers: Jahr-Anderson Assoc. Inc.

TYPICAL COST REDUCTION REPORTS FROM TECTUM USERS

Example 1 "The use of Tectum in lieu of the base specifications and having the same insulating and acoustical properties, resulted in savings of $6694.00 on the new Grandview High School Gymnasium. This is a savings of 38c per square foot."

Example 2 "In order to assure our client an economical design, we asked for alternate bids. Through use of Tectum, the savings to the Board of Education was $7400.00 or a unit savings of 34c per square foot."



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Send today for this informative booklet, "Raising The Roof Costs Less Than Ever" and see how hundreds of plants, schools, churches and other types of buildings have incorporated Tectum type decks and sidewall construction. Write today for the complete facts.



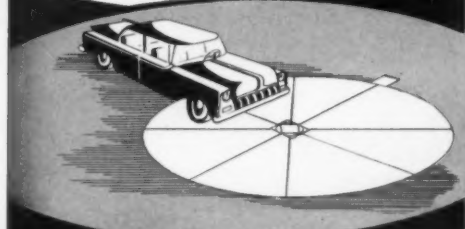


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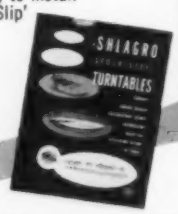


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THE RECORD REPORTS

NEWS FROM CANADA

(Continued from page 270)

who will need housing in the near future. He urged that more attention be paid to research directed at development of new residential designs and housing projects, as well as to the revision of existing building codes. Consensus of opinion appeared to be that, in general, the life span for which the typical small house is constructed is too long.

Friday afternoon was devoted to the College of Fellows installation ceremony, following which the Andrew Cobb dinner was held.

Bucky Fuller on Design

Saturday, June 1 marked the last day of the "Golden Jubilee" Assembly. R. Buckminster Fuller spoke on a symposium "An Anticipatory Science of Design" during the morning. He recounted the impact of industrialization on the arts and described results of studies which he first started 30 years ago. His optimistic forecast was that in design the degree of freedom accorded the individual will be greatly increased in future.

The afternoon was given over to tours and social events, with the president's reception and annual dinner at night.

The president of the Institute, Douglas E. Kertland of Toronto, chaired the meeting. Earlier he had reported that membership now stood at an all-time high, in the vicinity of 1900. He said that "one of the difficulties today appears to be that of keeping the strides of our economy in pace with our resources. It would seem reasonable that, if in pacing our strides forward, some postponements are necessary, then all — government, industry and individuals — should share in making those postponements."

Officers Reelected

Present R.A.I.C. officers were confirmed in their present positions for another year. They are: Douglas E. Kertland, president; A. F. Duffus, first vice president; K. C. Stanley, second vice president; Harland Steele, honorary secretary; Maurice Payette, honorary treasurer. C. J. G. Carroll continues as secretary.

Officers of the College of Fellows are B. R. Coon, chancellor (reelected); Prof. John Russell, dean; and Dr. F. Bruce Brown, registrar.

For Modern 2-Foot-Wide Troffers...

HOLOPHANE Presents a

New *Flanged* Controlens*

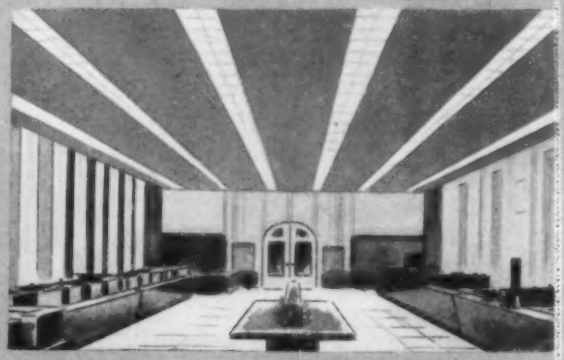


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† List of manufacturers who now make equipment for No. 6025 is available upon request.

Why are 2-Foot-Wide Troffers Desirable?

Because the wider lens produces high lighting efficiency with low brightness . . . assures greater visual comfort than usual narrower types . . . conforms with latest architectural techniques.

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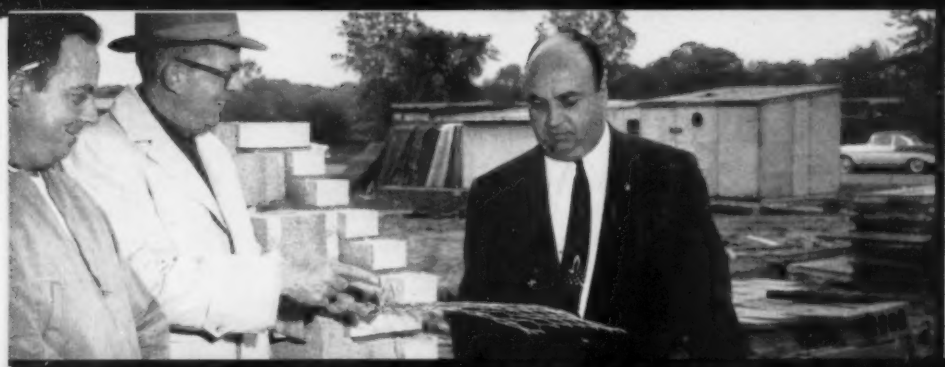


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"Keywall exclusively!" That's the decision of Victor DeSantis (right), vice president of The R. S. Ursprung Company. Vito DeSantis (left), job superintendent on the new Retread Plant of Firestone Tire & Rubber Company, agrees, as they inspect the job with Bob Scheurer, president, Lakewood Supply Company, local distributor of Keywall.

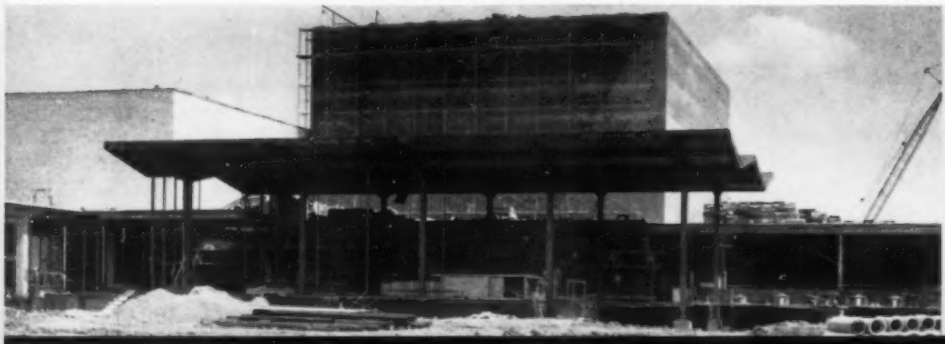


Keywall preferred by The Sam W. Emerson Co., Cleveland, for the Museum of Natural History, Cleveland. Approved by Garfield, Harris, Flynn & Williams, architects.

Cleveland goes "all out" for

KEYWALL

GALVANIZED MASONRY REINFORCEMENT



Keywall used exclusively in this large retail store of the May Co., Cleveland. Victor Gruen & Associates, Detroit, architect. Jack A. Bialosky, Cleveland, associate architect. The Sam W. Emerson Co., Cleveland, general contractor.

On this Warner & Swasey Co. warehouse, Keywall was used in alternate courses. Pilasters were on 16 ft. centers with expansion joints. Walls—18'-0" high. Joseph Ceruti and Associates, architect. The Leonard H. Krill Co., general contractor.

Typical Cleveland specification—Keywall in alternate courses. Olmstead Falls High School. Mellenbrook, Foley & Scott, architect, Berea. Barber, Magee & Hoffman, structural engineer. The Hoelzl-Martini Construction Co., general contractor.

Keywall takes over. On the Lamson & Sessions Factory, Keywall was tested against another masonry reinforcement. On the office addition, Keywall is being used. The George S. Rider Co., engineers. The Sam W. Emerson Co., general contractor.

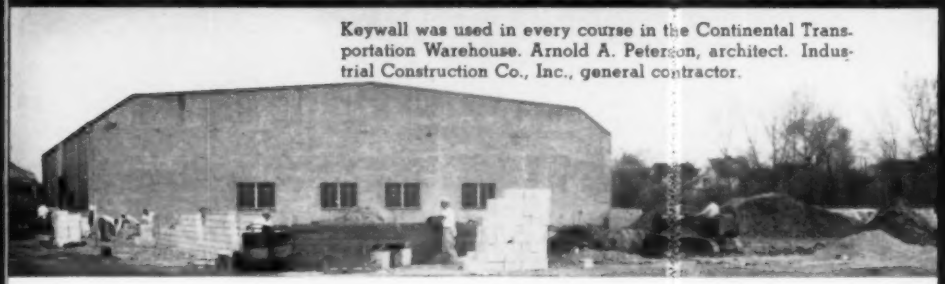








Another Keywall job. Pick-'N-Pay Super Market. Weinberg & Teare, architect. H. W. Marcuson Builders, Inc., general contractor. Grajeck Construction Co., mason contractor.



Keywall was used in every course in the Continental Transportation Warehouse. Arnold A. Peterson, architect. Industrial Construction Co., Inc., general contractor.



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(Top) Keywall preferred and used. Westlake Christian Church. Travis Gower Walsh & Associates, architect. R. L. Williams, associate architect. Dunlap & Johnston Inc., general contractor.

Keywall used in alternate courses. Vermillion-on-the-Lake High School. Outcalt Guenther & Associates, architect. Tom Hume, general contractor.



Keywall exclusively. Dairy Pak, Inc., factory. Wyatt C. Hedrick, architect, Cleveland and Ft. Worth. Henry C. Beck Co., general contractor, Cleveland and Atlanta. William A. Rhodes Construction Co., mason contractor, Cleveland.

Keywall replaced wall ties on the Holy Ghost School. With glazed tile walls, Keywall was used in every third course. With solid 12 inch brick walls, Keywall was used in every sixth course. Nicholas Lipaj, architect. Leo W. Schmidt, general contractor.



An exclusive Keywall job. Lakeshore Hotel Cabanas and Pool. Snyder & Tekushan, architect. The Westwood Construction Co., general contractor.



REVIEWING THE RECORD

(Continued from page 18)

Morningside Heights campus, a decision with which Schuyler was not in accord. But then, Schuyler did not really feel that a college's place was in the city, where in Samuel Johnson's words, young men were exposed to "levity and dissoluteness." Columbia was equally hampered, felt Schuyler, by its lack of dormitories. At one point he wrote, "Architecturally, quite as much as educationally, places of residence are necessary to the fulfilment of the college idea, as well as places of instruction. It is these domestic or monastic buildings, compounded of 'the cloister and the hearth,' which give to collegiate architecture the cloistral character which we find so delightful in it, and which is carried to its perfection in the degenerated and 'collegiate' architecture of England."

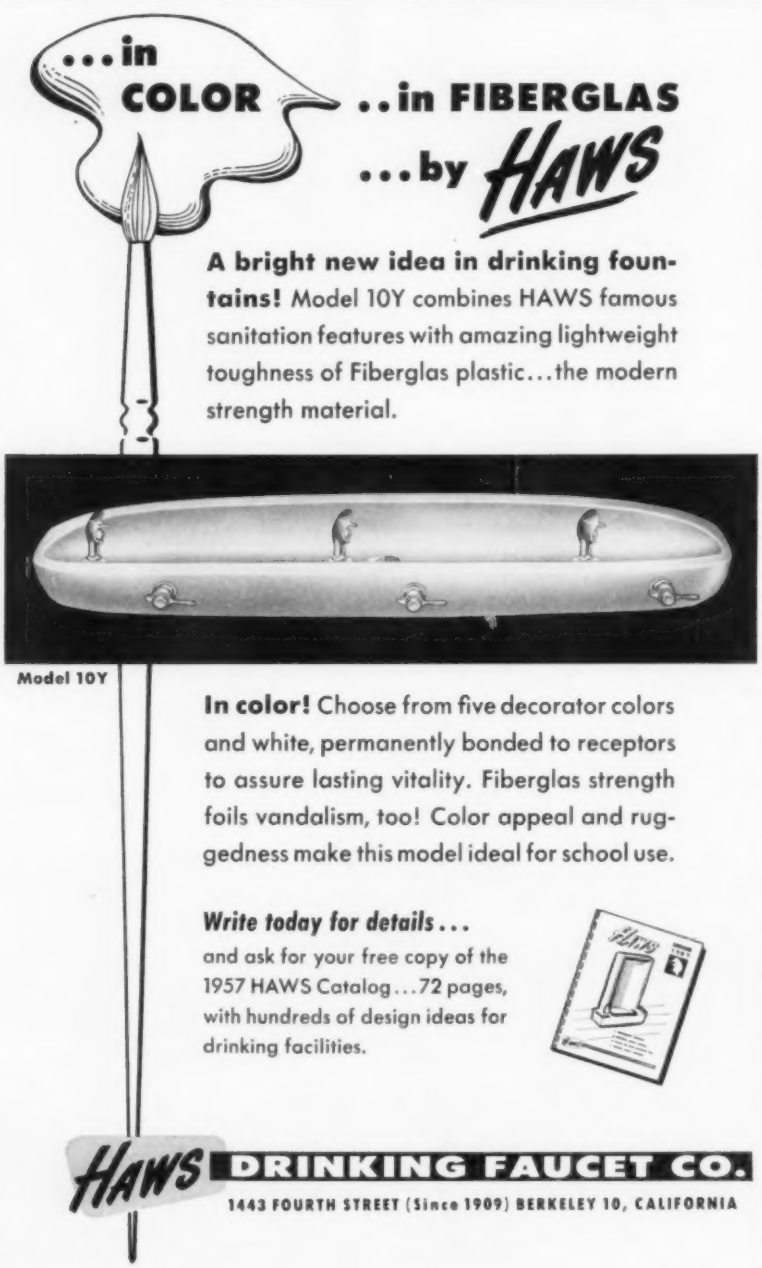


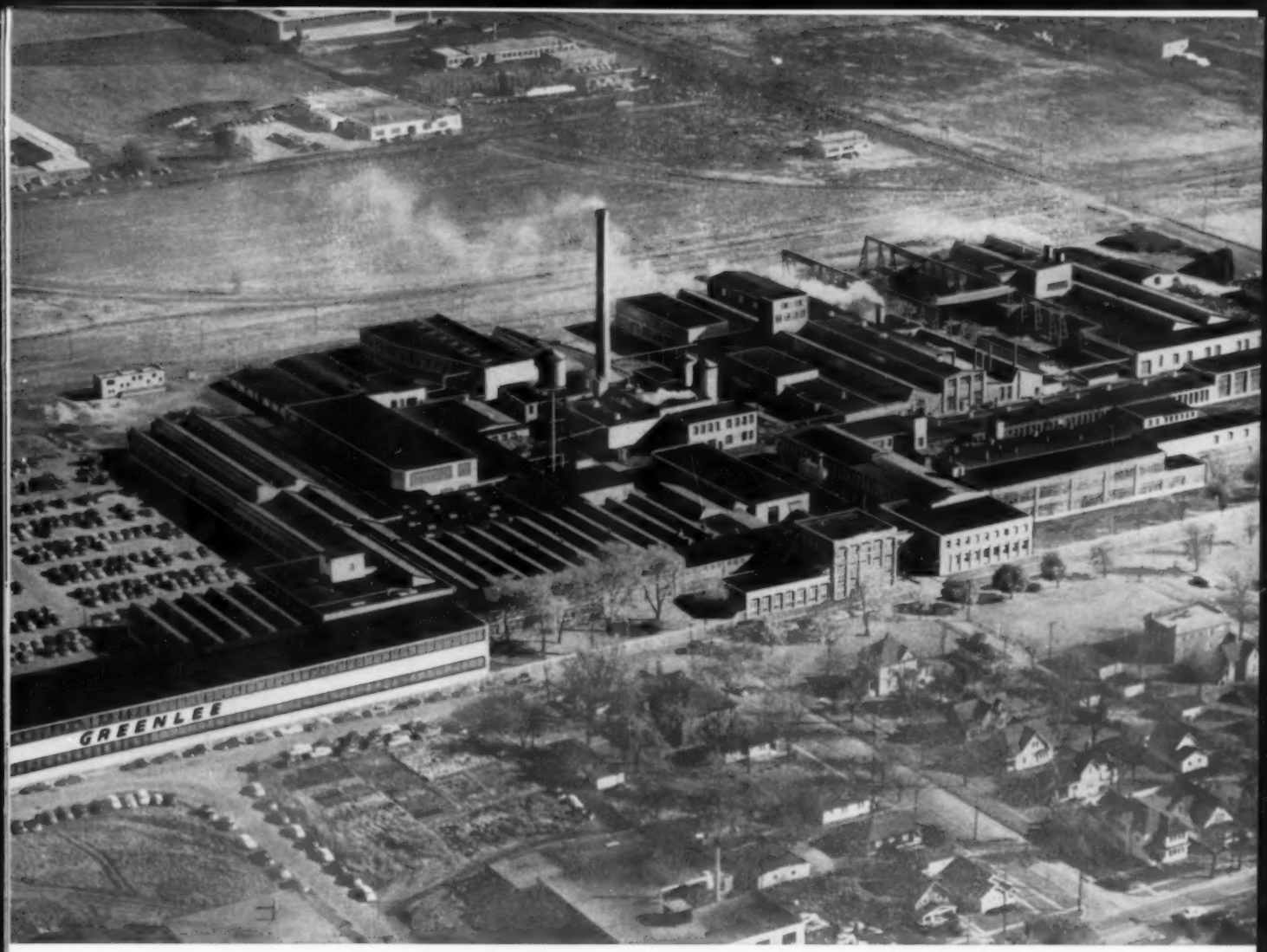
In the classic idiom: above, McKim, Mead and White's library for Columbia University; below, Smith Hall, at North Carolina, Alexander J. Davis, architect



Schuyler was quite ready to lay most of the blame for the country's campuses at the architects' feet: "One is aware that the last thing to be expected of the average American architect, except under compulsion, is deference and conformity." On the other hand, he was equally ready to give credit where due when an architect's contribution had been well-mannered (or even, as in the case of Richardson's Austin Hall at Harvard, decidedly a nonconformist building, when individual merit overruled a lack of "manners.") Architects, though, were not the only culprits. Writing in the last installment of the series, Schuyler asked "Is it the individualism of benefactors or the conceit of architects that gives rise to these 'fortuitous concourses of atom?' This is a question which ought to induce some searching of hearts among both the benefactors and the architects, but most of all among these presiding authorities of collegiate institutions. These authorities,

(Continued on page 282)





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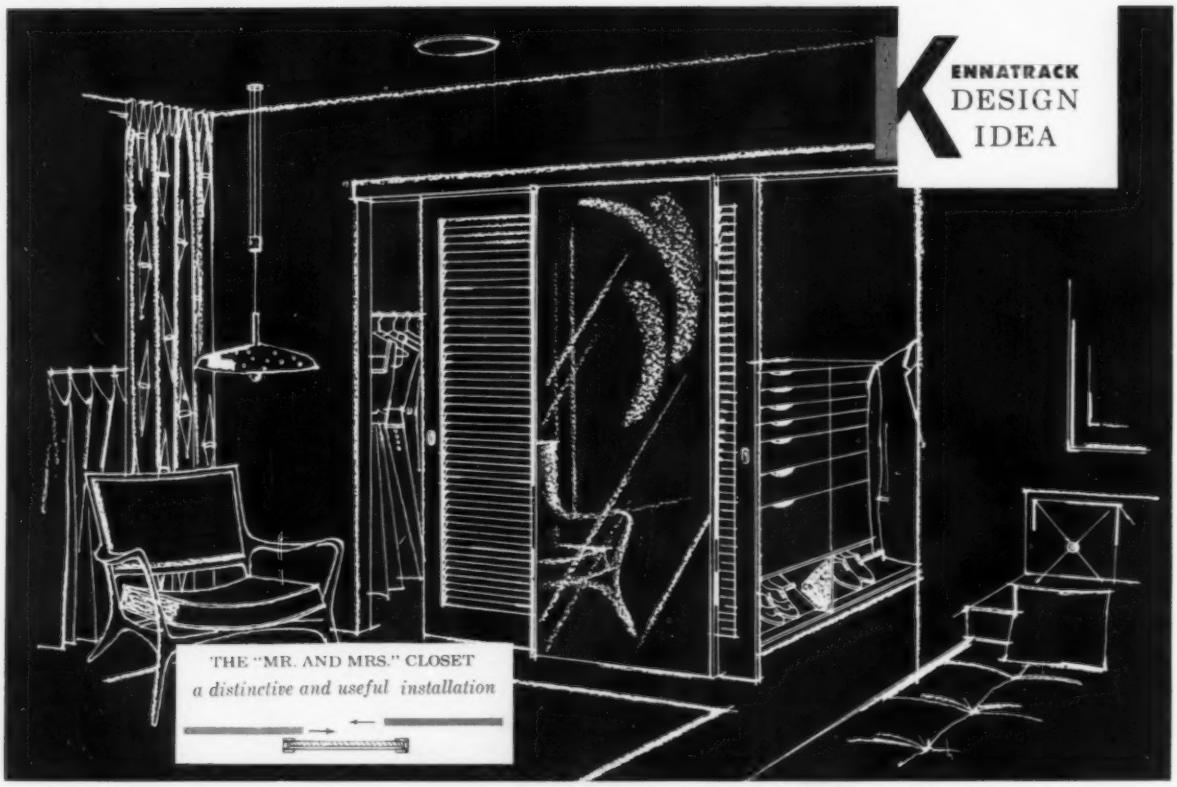
Expanding facilities at Greenlee Bros. & Company, Rockford, Illinois, created a problem common to many growing firms. The Company's three old boilers had to operate continually at maximum capacity, so that a forced outage could hurt plant production. In addition, peak load operation with outmoded equipment resulted in high fuel costs.

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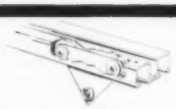
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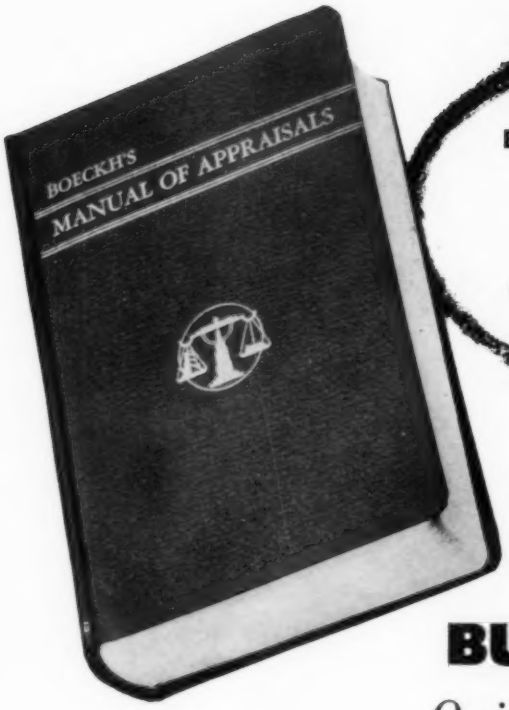
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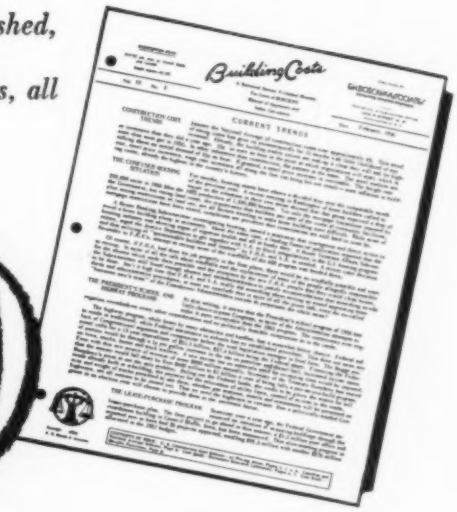
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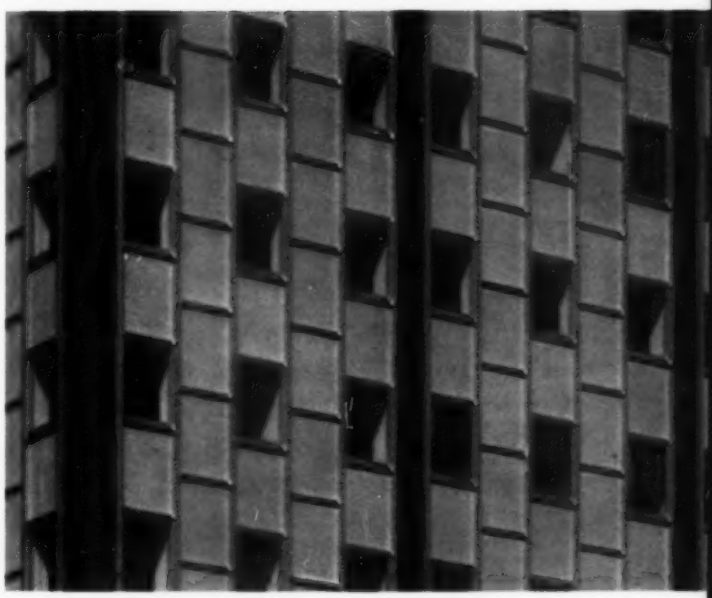
In addition to making a better building, the steel curtain wall construction pays its own way. Compared with masonry wall construction, the thin (three-inch) steel wall panels made available 310 additional square feet of rentable floor area on each floor. With 14 floors, renting at $6.75 per square foot, the added rental income is $29,295 per year!

There were great construction savings, too. A masonry exterior wall would have weighed 1,290 tons. The steel curtain wall weighed a mere 180 tons. Net savings: 1,110 tons of dead weight. This meant that they could use lighter columns and spandrel beams in the building. They even saved $10,000 because of the need for fewer piles!

Best of all, perhaps, is the appearance of the finished building. The porcelain-enameled steel wall panels have a *lifetime* lustrous blue finish; and they are supported in a bright, maintenance-free grid of Stainless Steel mullions with long-lasting, Stainless Steel windows.

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Miami Beach Federal Building, Miami Beach, Florida
Architects: The Edwin T. Reeder Associates, Miami, Florida
Panel Fabricator: Davidson Enamel Products Inc., Lima, Ohio
General Contractor: Arkin Construction Co., Inc., Miami Beach, Florida

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superb photographs, thought-provoking text

Japanese Temples and Tea-Houses

by Werner Blaser



A prize-winning Swiss book, now available for the first time in the English language. *Japanese Temples and Tea-Houses* is an exquisite collection of brilliant photographs (several in full color) and drawings of classic examples of Japanese architecture. The text is a thoughtful, penetrating study of the historical, spiritual, and social elements which provided the inspiration for these structures, and which underline their significance in today's world.

The book is the result of Blaser's trip to Japan, made with a grant from the Swiss Federal Government. It studies 30 Japanese temples, palaces, and tea-ceremony buildings, dating from the 16th and 17th centuries, when this form of architecture reached its zenith. Each is depicted in several illustrations, and the particular significance of each is explained. Emphasized is the integration of the exterior and interior of a Japanese building, as well as the unity of its purpose, structural form, and material. Blaser is convinced that early Japanese architects, who were both artisans and priests, were unbelievably successful in capturing spirituality in their buildings. He is also convinced that therein lies a very important lesson for Western architects.

156 pages, large 9¼ x 12¼" size
Over 90 vivid photographs (8 in full color)
21 sketches and plans
Printed in Switzerland on finest stock
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OUTLINE OF CONTENTS

INTRODUCTION • significance of Japanese temples and tea-houses in the world today • origin of tea-ceremony: Buddhism and Shintoism • layout of the temple compound • the priest as an architect • Japanese concept of space • tatamis (straw mats) as "modular coordinates" • the takonoma—a sanctuary for the display of a sacred scroll • the garden • man and nature in Japan • comparison of the architecture of Mies van der Rohe with the Japanese.

ZEN BUDDHIST TEMPLES AT KYOTO

Ginkaku-ji, Silver Pavilion, 1483
Tokyu-do in the Ginkaku-ji, 1483
Muro-ji near Nara, 9th Century
Residence of the Abbot of Daitoku-ji, 1636
Koho-an Hermitage, 1612 (rebuilt 1793)
Sangen-in sub-temple, ca. 1810
Manju-in Temple Hermitage, 1656
Saiho-ju Moss Garden, ca. 1340
Ryoan-ji Rock Garden, 15th Century

TEMPLES AND DWELLING-HOUSES AT KYOTO

Temple Dwelling-House Daigo-Sambo-in, 1598–1602
"Tea-house of Pines in the Moonlight", 1818–1829
Myoki-an, 16th Century
Ryokaku-tei of Ninna ji, ca. 1700

TEA-CEREMONY SCHOOLS AT KYOTO

Ura-senke
Omote-senke

IMPERIAL VILLAS AT KYOTO

Katsura Palace, Kyoto, 17th Century
Gepparo
Manjii-tei
Shokin-tei
O-machiai
Shugaku-in Palace, Imperial Summer Villa, 1629
Jugetsu-kan
Rin-un-tei
Kyusui-ken
Farmhouse at Arashiyama

PALACES AT KYOTO

Nijo Castle, 16th Century
Imperial Palace, Kyoto, 794
Kojo-in

SHINTO SHRINES

The Ise Shrine at Uji-Yamada near Nagoya
Kamigamo Shrine, 1863

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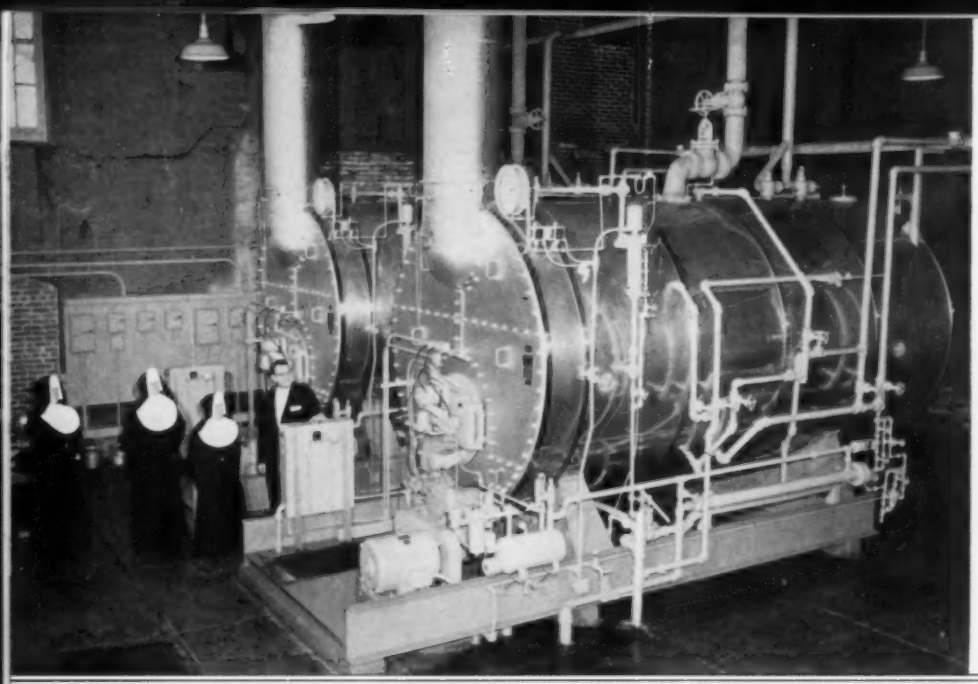
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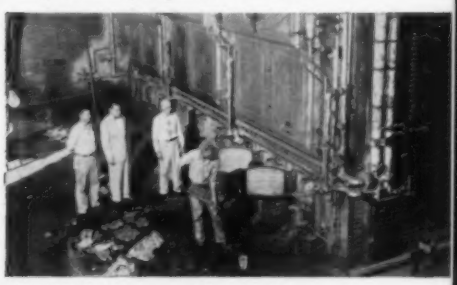
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OLD BOILER was a coal-fired HRT model — typical of many replaced by modern Cleaver-Brooks oil, gas or combination oil/gas fired boilers.

Consulting engineer* tells how Immaculata College boiler modernization saves estimated $12,000 each year

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December 20, 1956

Mr. John C. Cleaver, President
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Dear Mr. Cleaver:

Recently our office was retained to make an impartial, exhaustive engineering study of the 40-year old boiler plant and steam system at Immaculata College, Immaculata, Pa., which is staffed by the Catholic order, Sisters of the Immaculate Heart of Mary.

As a result of our recommendations, two fully automatic, oil-fired, 350 bhp Cleaver-Brooks package steam boilers, (12,000 lbs/hr steam each), replaced three hand-fired coal boilers and steam-driven auxiliaries. The new boilers are operating at approximately 80% boiler efficiency year-round.

Conversion of coal firing to automatic #6 oil firing and increased boiler efficiency has reduced the fuel cost approximately 50% -- amounting to a saving of $12,000 each year.

The Cleaver-Brooks boilers burn #6 oil and operate automatically at 80 pounds steam pressure 'round the clock -- without the presence of operators in the boiler room. Eliminating boiler plant labor saves the College $7,500 each year.

The cost of the boiler plant modernization will be paid for out of fuel and labor savings in approximately 2-1/2 years.

Commendation for this outstanding performance of the Immaculata boiler plant is due to your well-engineered boiler design and to the cooperation of your skilled servicemen. The results achieved were so impressive that the Sisters subsequently modernized their Villa Maria Convent, Westchester, Pa., with two 100-bhp Cleaver-Brooks boilers.

Sincerely yours,

Salvatore S. Guzzardi

***Salvatore S. Guzzardi** — Award-winning head of an organization of experienced professional engineers specializing in modernizing power service facilities. Clients include: Pennsylvania University, Baldwin-Lima-Hamilton Corp., H. Daroff & Sons, Sun Shipbuilding & Dry Dock Co. and City of Philadelphia.

Surveys show 32% of boilers now in service are 30 years old; 56% are over 20 years old

If your boiler fits this description, we recommend an immediate survey. "In 90% of the plants surveyed," summarizes Mr. Guzzardi, "we have found it possible to save thousands of dollars and to pay for the recommended improvements out of annual savings within one to three years."

Again and again the proved economy of Cleaver-Brooks four-pass, forced-draft boiler design results in savings reports as impressive as this. Contact your nearest Cleaver-Brooks representative for more facts on the complete line of steam and hot water boilers — 19 sizes, 130 models, 15 to 600 hp — for heating or processing. Or write Cleaver-Brooks Company, Dept. F, 362 E. Keefe Ave., Milwaukee 12, Wis., U.S.A. Cable Address: CLEBRO — Milwaukee — all codes

Cleaver Brooks

ORIGINATORS OF SELF-CONTAINED BOILERS

THE RECORD REPORTS

REVIEWING THE RECORD

(Continued from page 278)

it should seem, should make an early commitment of their respective institutions to some uniform and understood way of working."

Schuyler's series on "The Architecture of American Colleges" included:

Harvard—October 1909, pp. 243–269
Yale—December 1909, pp. 393–416
Princeton—February 1910, pp. 129–160



In the Gothic idiom: "Ruskinian" Gothic for College Hall (1871) at the University of Pennsylvania, Prof. Thomas Richards, architect; below: Princeton University "from the railroad," Blair (1897) and Stafford Little Halls (1899–1901), Cope & Stewardson, architects



New York City Colleges (Columbia, New York University, Union Theological Seminary, City College of New York, General Theological Seminary) —June 1910, pp. 443–469

U. of Penn., Gerard, Haverford, Lehigh and Bryn Mawr—September 1910, pp. 182–212

Brown, Bowdoin, Trinity, Wesleyan—February 1911, pp. 145–166

Dartmouth, Williams, Amherst—December 1910, pp. 424–442

Southern Colleges (William and Mary, St. John's, North Carolina, Davidson, Wake Forest, South Carolina, University of Virginia, Post Bellum Colleges)—July 1911, pp. 57–84

Union, Hobart, Hamilton, Syracuse, Cornell—December 1911, pp. 549–573

Vassar, Wellesley, Smith—May 1912, pp. 513–537

"Home-made and vernacular": the Chemistry building at Hamilton College; Schuyler suspected the architect was the president (1903)





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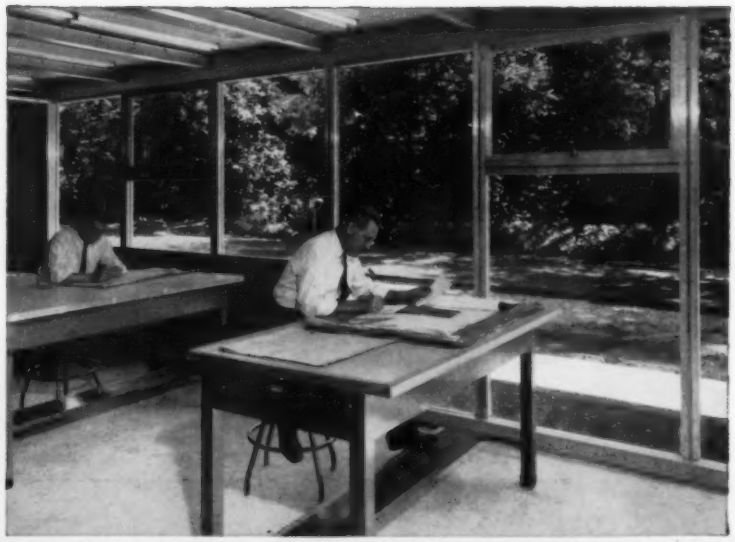
GRADE MARKED • TRADE MARKED **CALIFORNIA REDWOOD**

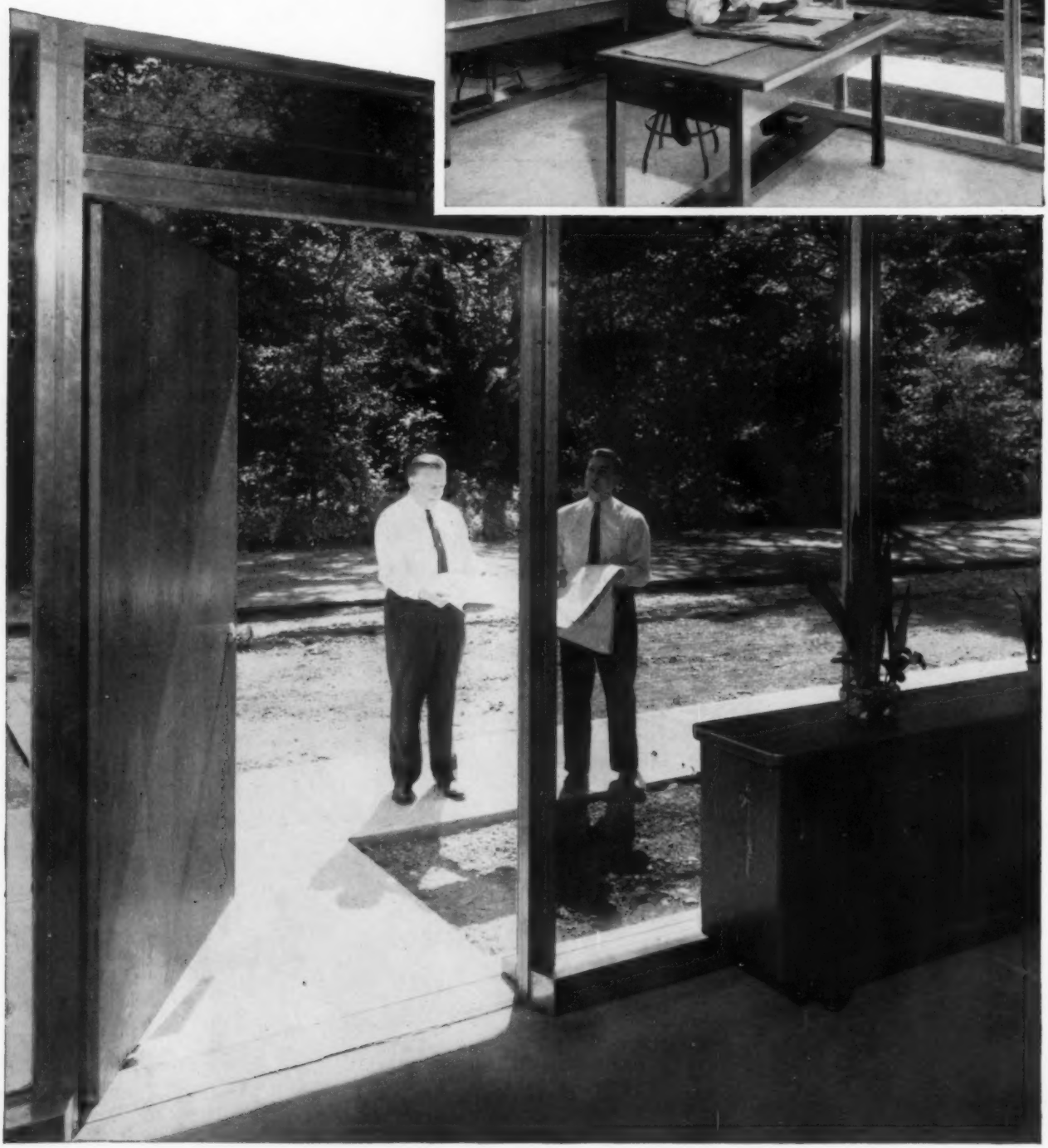
CALIFORNIA REDWOOD ASSOCIATION
576 SACRAMENTO STREET
SAN FRANCISCO 11, CALIFORNIA

ARCHITECT: GREGORY AIN, A.I.A.



Right—*Efficiency is high all day in new drafting room of Aluminum Structures, Inc., because the glare reduction provided by AMERICAN LUSTRAGRAY sheet glass results in greater eye comfort.* **Below**—*Glare seen through opened entrance doorway at left is reduced approximately 50% by windows of AMERICAN LUSTRAGRAY at right of doorway. Note how the neutral gray tint of LUSTRAGRAY actually sharpens the view.*





Below—*Viewed from exterior, windows of AMERICAN LUSTRAGRAY provide an attractive appearance and interior privacy. Photo shows exterior of new plant-office of Aluminum Structures, Inc., Upper St. Clair Township, Bridgeville, Pa.* **Architects:** *Schell, Deeter & Stott, Pittsburgh, Pa.* **General Contractor:** *Dick Corp., Large, Pa.* **Aluminum Fabricator and Erector:** *Aluminum Structures, Inc.* **Glazier:** *Watson-Standard Co., Pittsburgh, Pa.*



GLARE REDUCING SHEET GLASS

For efficiency | appearance | economy | privacy

—the architects chose **american LUSTRAGRAY**

Here's an example of how AMERICAN LUSTRAGRAY, a neutral gray sheet glass, has become a very functional part of modern building.

The owners of this spanking new industrial building wanted daylight without glare. LUSTRAGRAY gives them that—and at the same time provides a significant reduction in the transmission of solar heat. Result: increased task efficiency for occupants.

The appearance of LUSTRAGRAY has a very unique effect. Viewed from the exterior, LUSTRAGRAY is just dark enough to afford interior privacy and yet the occupant is provided excellent, undistorted vision. LUSTRAGRAY has an attractive, highly lustrous appearance with a minimum of distortion, and its neutral gray tint eliminates undesirable effect on interior or exterior colors. With AMERICAN's continuous drawing process, there is no variation in the color or quality of LUSTRAGRAY.

Significant economy is one result of the use of glass for walls in place of other building materials, and glass lasts longer with practically no maintenance or deterioration in appearance.

The advantages of efficiency, appearance, economy, and privacy are available to you on your next design job. For glazed areas in industrial, commercial, institutional or residential designs, specify AMERICAN LUSTRAGRAY sheet glass—the new look in functional glazing.

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WINDOW *Glass* COMPANY
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WSW 6723

THE RECORD REPORTS

ON THE CALENDAR

August

5–12 Fourth International Conference for Students of Architecture — Copenhagen

11–15 First National Conference on Applied Heat Treansfer, sponsored by Heat Transfer Division and Central Pennsylvania Section, American Society of Mechanical Engineers, in cooperation with College of Engineering and Architecture, Pennsylvania State University — University Park, Pa.

18–23 The 1957 Congress of Correction, annual convention of the American Correctional Association — Morrison Hotel, Chicago

September

IV International Architectural Exhibition and III International Contest for Schools of Architecture, sponsored by the São Paulo Museum of Modern Art in connection with its IV Biennial; through December

6–7 Western Mountain Regional Conference, American Institute of Architects — Jackson Hole, Wyo.

9–12 The New Highways: Challenge to the Metropolitan Regions; a symposium sponsored by the Connecticut General Life Insurance Company — Bloomfield, Conn.

9–13 National Technical Conference, Illuminating Engineering Society — Biltmore Hotel, Atlanta

9–19 First International Seminar on Hospital Construction, sponsored by the International Hospital Federation and the International Union of Architects, with the assistance of the World Health Organization — Amphithéâtre des Policliniques, Geneva

17–18 Plastics for Roof Construction; fourth meeting of Building Research Institute Plastics Study Group; open to all concerned with building — Washington University, St. Louis.

19–21 Annual convention, New York State Association of Architects — Hotel Statler, Buffalo

19–21 New York Regional Conference, American Institute of Architects — Buffalo

22–25 Annual convention, American Public Works Association — Philadelphia

22–26 The 59th annual conference, American Institute of Park Executives — Minneapolis

23–25 Sixth annual meeting, Standards Engineers Society — Hotel Commodore, New York

25–27 North Central States Regional Conference, American Institute of Architects — Faust Hotel, Rockford, Ill.

25–27 The 36th annual fall meeting, Producers' Council — Louisville

30ff Annual convention, American Hospital Association; through October 3 — Hotel Traymore, Atlantic City

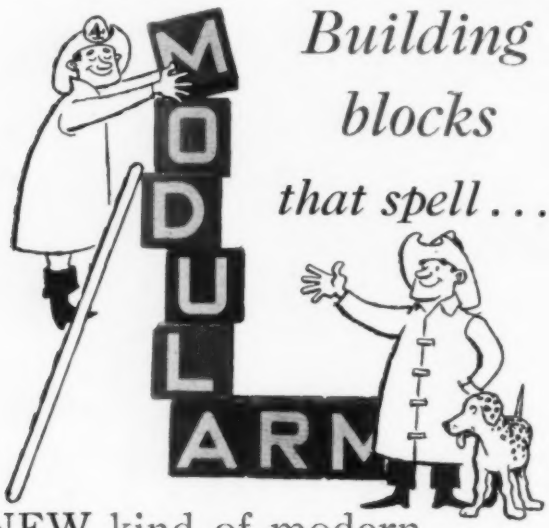
30ff Ninth Mental Hospital Institute; through October 3 — Hotel Cleveland, Cleveland

30ff National Recreation Congress, annual meeting of the National Recreation Association; through October 4 — Long Beach, Cal.

October

2–6 The 12th annual convention, California Council of Architects,

(Continued on page 290)



Building blocks that spell . . .

. . . a NEW kind of modern *fire protection*

Modularm is a completely new fire alarm system of building block design. The building blocks are compact, modular units called Alarm Initiating Panels, Alarm Signal Panels, and Power Panels — all standardized and designed for economy. Combined, they produce any of these wide variety of UL-approved systems:

Manual, automatic, and/or pre-signal non-coded systems.

Manual or automatic common-code or zonal code systems.

Manual or automatic selective-code, selective-code continuous-alarm after code, or selective-code pre-signal systems.

Modularm has these additional features—

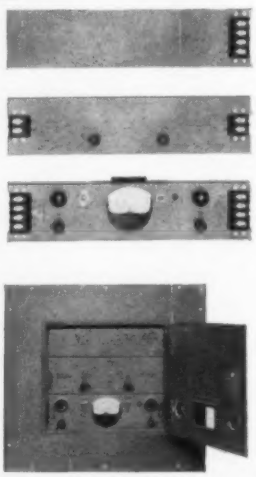
Provisions for automatic alarm connection to municipal fire stations.

Dead-front design of control panel isolates high voltage, permitting installation anywhere.

Single or double supervised power supply.

Auxiliary test switches — pilot lamps.

Automatic fire detection for non-supervised areas.

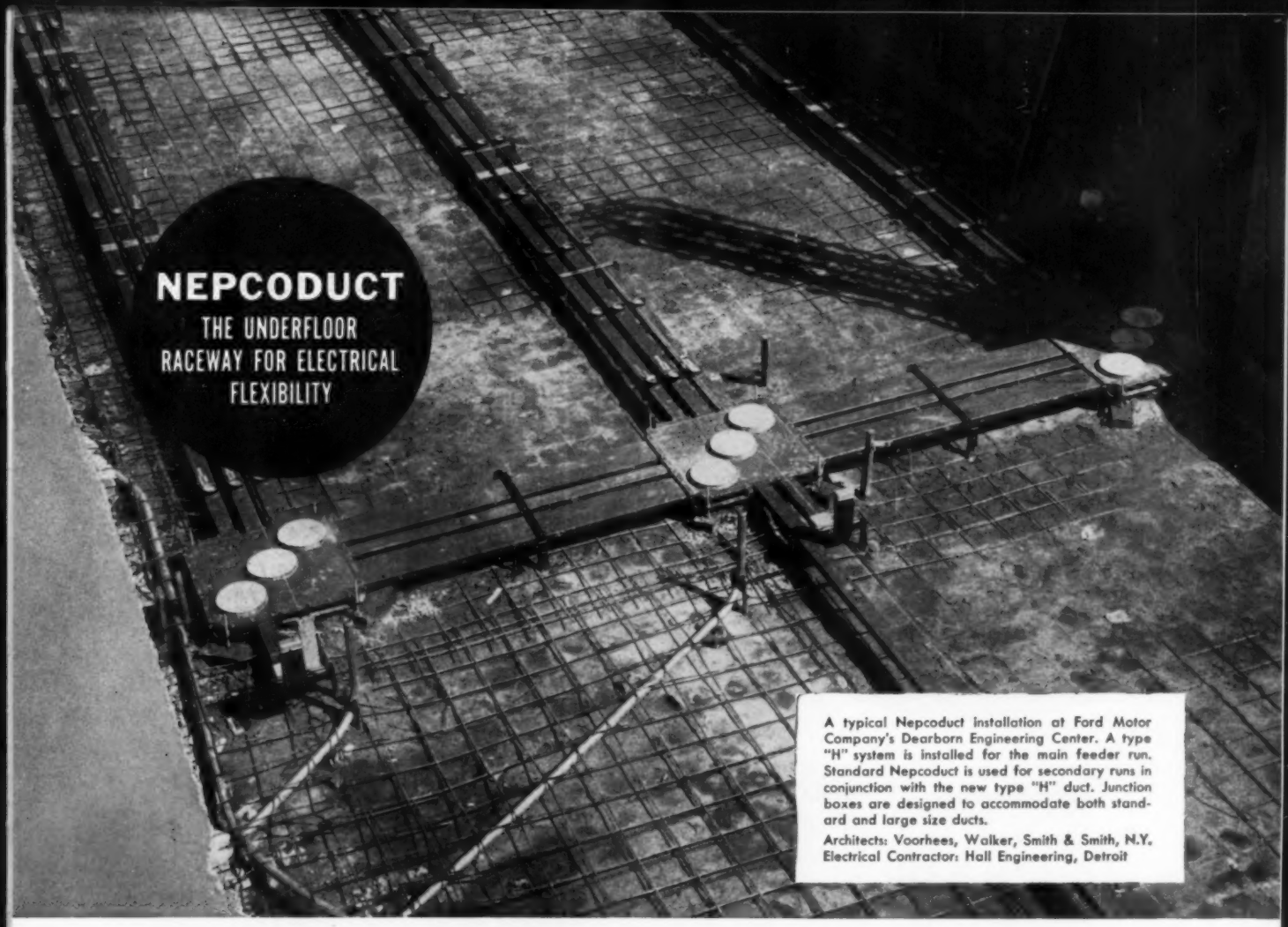


Integrated design, easy installation and superior performance make *Modularm* the most modern and complete fire alarm system available today. Write for Couch's Modularm Brochure #131.

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A typical Nepcoduct installation at Ford Motor Company's Dearborn Engineering Center. A type "H" system is installed for the main feeder run. Standard Nepcoduct is used for secondary runs in conjunction with the new type "H" duct. Junction boxes are designed to accommodate both standard and large size ducts.

Architects: Voorhees, Walker, Smith & Smith, N.Y.
Electrical Contractor: Hall Engineering, Detroit

FORD standardizes on larger capacity underfloor raceways for main feeder runs . . .

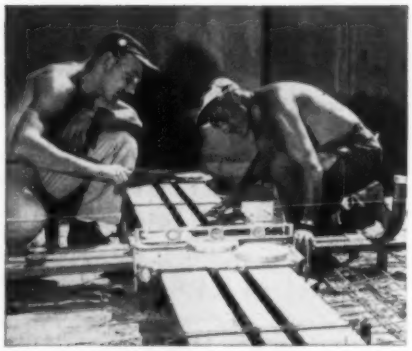
New National Electric "H" System used in Dearborn Engineering Center and Rawsonville office buildings

A type "H" system, the latest addition to National Electric's standard Nepcoduct Underfloor Raceway line, has been specified by Ford Motor Company. It will provide full electrical distribution throughout floor areas at the new Dearborn Engineering Center and Rawsonville Office Buildings.

Type "H" Nepcoduct, with a cross section of 1⅜" x 6⅛", has increased capacity to accommodate the large size cable feeds required to serve modern power and telephone facilities. It is especially suited to the growing electrical needs of network teletype, data processing and extensive communication equipment.

All Nepcoduct components including type "H" can be installed as a one, two or three duct system with large hand hole openings in junction units to provide easy access to power, light and communications systems. Adaptable to any type of floor construction, Nepcoduct makes outlets available wherever they are needed for efficient office layout. Electrical service changes can be made quickly and at low cost to the owner or tenant . . . without interrupting business routine.

When you build, specify NE Nepcoduct to be sure the building will never grow old electrically. Write for complete information today.



Quick and economical to install, Nepcoduct provides separate wiring facilities for light, power, inter-communication and telephone. Streamlined service fittings less than three inches high are provided with standard receptacles of 15 to 30 amperes capacity and with bushed openings for telephone and intercom use.

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GREATER ADAPTABILITY | **GREATER ADJUSTABILITY** | **GREATER SAVINGS**



From JOSAM, leader and pioneer of plumbing drainage products, comes a *great new development*— Josam UNITRON Chair Carriers and Closet Fittings.

For the first time — a *closet carrier that fits all types of closet fixtures* — blow-out or syphon jet and women's urinals, regardless of the manufacture.

For the first time — *a carrier that is INDEPENDENT OF THE FITTING and can be placed at any distance from the fitting.*

Out of years of study and research in the Josam testing laboratories and in the field, Josam has produced the first major design change in wall-hung fixture carriers and fittings since they were first introduced.

Josam, before marketing UNITRON carriers and closet fittings, challenged its own researchers: design a single carrier that will be adjustable to accommodate *all* wall-hung water closets and women's urinals — a modern, simplified unit that would be balanced, uncomplicated, efficient in operation and easy to install. UNITRON meets the challenge with flying colors.

Architects and engineers will find UNITRON Closet Carriers meet all wall-hung closet bowl and women's urinal requirements with a minimum number of basic units requiring one-third less pipe chase width, thereby reducing costs and providing additional rental space.

Here is today's carrier assembly for today's installation and construction requirements. Get complete data on the new Josam UNITRON line by sending coupon below.

Josam products are sold through plumbing supply wholesalers

JOSAM MANUFACTURING COMPANY

General Offices and Manufacturing Division
MICHIGAN CITY, INDIANA

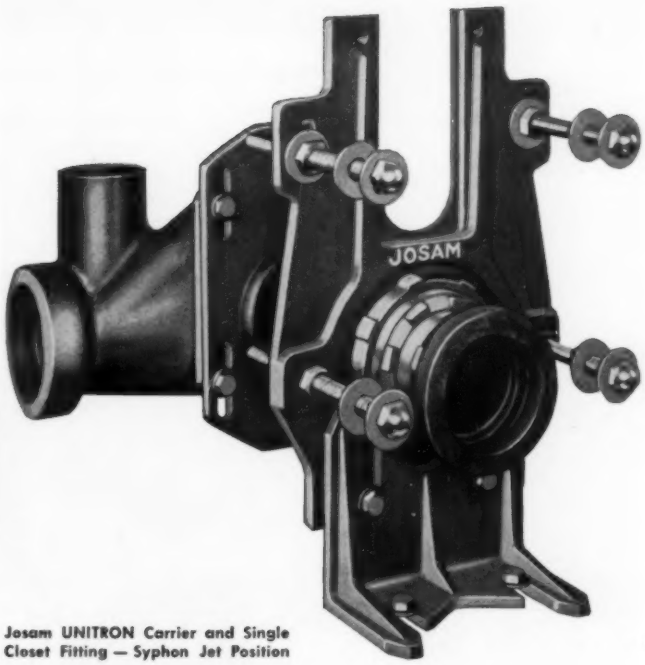
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DEVELOPMENT

CHAIR CARRIERS and CLOSET FITTINGS for WALL HUNG FIXTURES



Josam UNITRON Carrier and Single Closet Fitting — Syphon Jet Position

Advanced design features make the UNITRON ideal for modern installations

The Josam UNITRON Carrier is so designed that ONE CARRIER is adjustable to support all wall-hung water closets and women's urinals. This eliminates using a different carrier for every blow-out or syphon jet closet bowl or women's urinal, or a different carrier for each manufacturer of such fixtures.



REVERSIBLE CARRIER BODY

Reversing carrier body from top to bottom position permits connection for blow-out or syphon jet bowls of any manufacturer.



ADJUSTABLE EXTENSION

The Adjustable Extension of the closet connection assembly, permits an adjustment of 4" between the face of the fixture carrier and the finished wall line. Adjustment can be made from the front of the unit at any time before or after the wall has been built.



REVERSIBLE FOOT

The Reversible Foot on the Carrier provides vertical adjustment from ¾" minimum to 4⅞" maximum. This is accomplished by reversing the foot support.



COMMON VENT

A single or common vent provided for the double closet fitting is so located that it will afford more effective air circulation for the fixture and branch. With the single vent a group or row of water closets can also be loop or circuit vented.



REVERSIBLE FACE PLATE

The reversible face plate on Josam UNITRON closet fittings is an exclusive Josam feature, engineered so that reversing the plate actually provides an adjustment of 4¼". It reduces space requirement on one position, thereby meeting construction conditions which are prevalent today, that of monolithic floor construction or minimum floor fill.

A Complete Line of Josam UNITRON Carriers and Fittings for



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Please send copy of *Catalog F* on UNITRON

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THE RECORD REPORTS

(Continued from page 286)

and California-Nevada-Hawaii Regional Conference, American Institute of Architects — Hotel del Coronado, San Diego

3–5 The 26th annual meeting, Porcelain Enamel Institute — Greenbrier Hotel, White Sulphur Springs, W. Va.

6–9 Gulf State Regional Conference, American Institute of Architects; theme, "The Architect and the Industrial South" — Dinkler-Tutwiler Hotel, Birmingham, Ala.

7–9 National Electronics Conference, co-sponsored by Illinois Institute of Technology and two other universities and two other technical societies — Hotel Sherman, Chicago

7–11 Fall General Meeting, American Institute of Electrical Engineers — Chicago

10–11 Eighth annual Noise Abatement Symposium, jointly sponsored by Armour Research Foundation of Illinois Institute of Technology, Acoustical Society of America, American Society of Safety Engineers, National Noise Abatement Council, American Society of Planning Officials, American Industrial Hygiene Association, Acoustical Materials Association and *Noise Control Magazine* — Sherman Hotel, Chicago

11–12 Fall meeting, Virginia Chapter, American Institute of Architects, and annual meeting, Virginia Society of Professional Engineers — Hotel Roanoke, Roanoke, Va.

13–15 Annual meeting, American Institute of Planners — Chicago

14–18 Annual meeting, American Society of Civil Engineers — Hotel Statler, New York

15–18 Annual convention, National Council on Schoolhouse Construction — Milwaukee

17–20 Northwest Regional Conference, American Institute of Architects — Gearhart Hotel, Gearhart, Ore.

21–23 Annual conference, National Association of Housing and Redevelopment Officials — Sheraton Jefferson Hotel, St. Louis

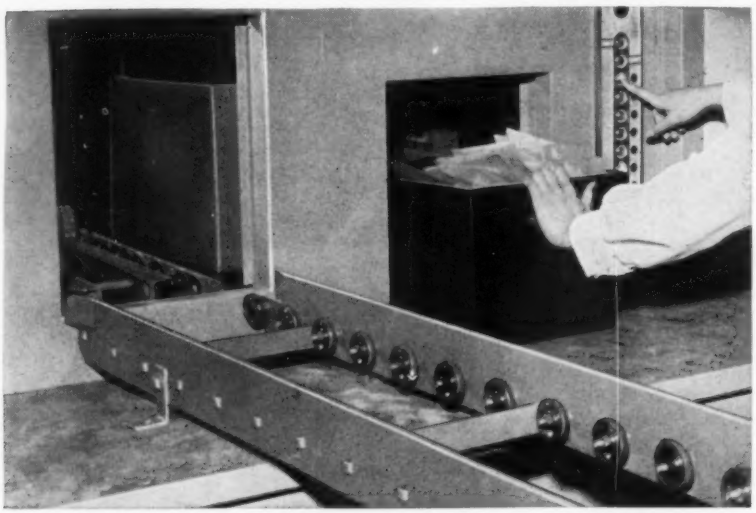
21–25 The 45th National Safety Congress and Exposition, sponsored by the National Safety Council — Chicago

23–26 Architects Society of Ohio annual convention — Neil House, Columbus, Ohio

27ff Fourth annual meeting, Atomic Industrial Forum, and third annual Trade Fair of Atomic Industry concurrently with fall meeting of American Nuclear Society; through November 1 — The Coliseum, New York City

30ff Texas Regional Conference, American Institute of Architects; through November 1 — Dallas

31ff Central States Regional Conference, American Institute of Architects; through November 2 — Skirvin Hotel, Oklahoma City



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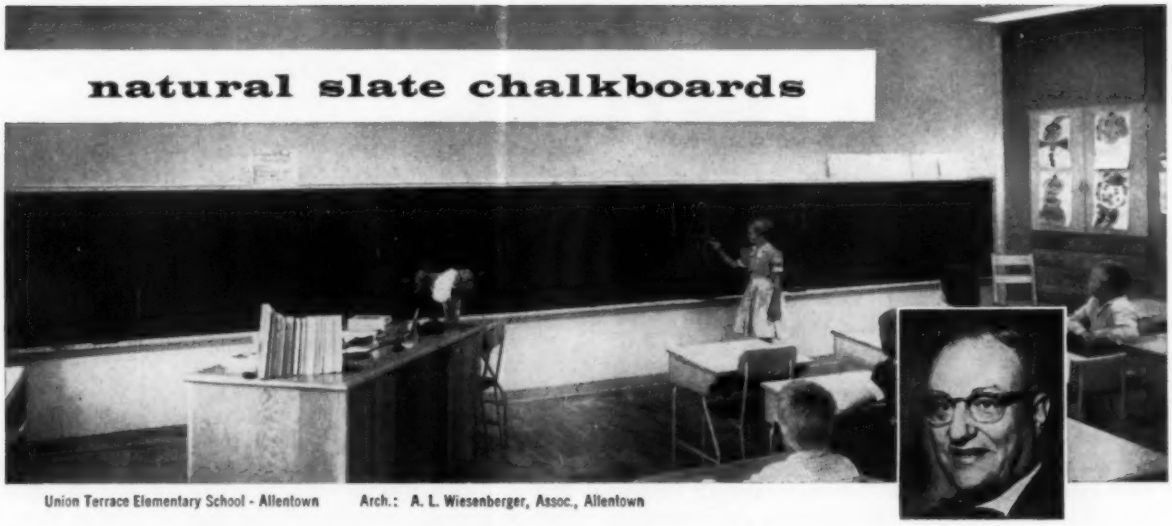
Offices Opened

• Harrell & Hamilton, Architects, is a new partnership formed by George Foster Harrell and E. G. Hamilton; offices are in the Republic Bank Building, Dallas, Tex.

• W. L. Manggrum Jr., A.I.A., has an-

(Continued on page 296)

natural slate chalkboards



Union Terrace Elementary School - Allentown Arch.: A. L. Wiesenberger, Assoc., Allentown

"First and Only Choice of the Allentown, Pa. School District"

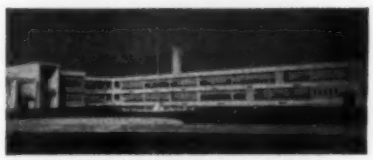
. . . says Mr. Paul J. Fink, Assistant to the Superintendent of Schools



Midway Manor Elementary School - Allentown
Arch.: Heyl-Bond-Miller, Allentown



Muhlenberg Elementary School Addition - Allentown
Arch.: Lange & Everett, Allentown



South Mountain Junior High School - Allentown
Arch.: Heyl-Bond-Miller, Allentown



Vocational Annex to Senior High School - Allentown
Arch.: George E. Yundt, Allentown

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"We have found Pennsylvania slate to be practically indestructible as we're still using some of the original slate boards in one of our recently renovated schools . . . boards installed when the school was built in 1886! After close to 70 years, these boards are still ably serving our students and teachers. What's more, they fit in perfectly with their new, modern surroundings. No wonder we are sold on slate and specify it in all our schools."

That's the feeling of Mr. Paul J. Fink of the Allentown School District. And the facts bear it out. Since 1950, this district has renovated or built additions to 7 elementary schools, built 2 new elementary schools and a junior high school, added a vocational annex to the senior high school, and construction is now under way for another new junior high school. In each case, natural slate chalkboards were specified.

Why not investigate slate chalkboards for your classrooms? You'll find for contrast, durability, easy maintenance . . . and timeless good looks . . . there is just no substitute for slate!

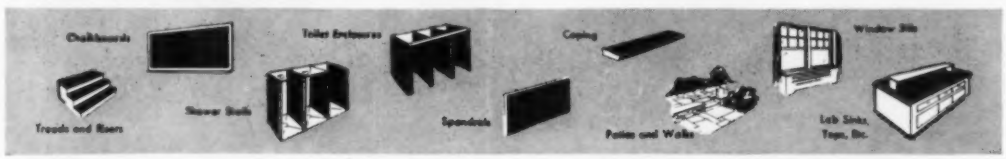
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THE STRUCTURAL SLATE CO. - pen argyl, pennsylvania

for your protection, insist on slate quarried in Pennsylvania

natural slate...500 million years in the making





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WESTINGHOUSE WATER COOLERS were specified because they, too, are designed with more advanced features . . .

A new Free-Flow Water Valve eliminates all possibility of leaks, works faster and easier . . . a Patented Pre-Cooler and Super Sub-Cooler deliver up to 60% more cold water . . . Dual Drink Control (both finger-tip and toe-tip operation) at no extra cost . . . an Automatic Stream-Height Regulator for no-spurt, no-splash drinking. And . . . only Westinghouse offers 19 different models with such clean, crisp, functional lines that fit so perfectly into architectural plans.

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Advanced in every detail for the greater convenience and comfort of motorists . . . D-X Sunray Service Stations are light and airy with wide expanses of glass-enclosed sales rooms. Spacious garages with all the latest servicing equipment offer quick, efficient car repair. Landscaped, too, for maximum "eye-appeal," these service stations are setting the pace in appearance on the American Road. And, for the daily refreshment of travel-weary motorists, every D-X Sunray Service Station has a *Westinghouse Water Cooler.*

. . . by design

That's just a few of the reasons why an ever-increasing number of architects, builders and plumbing contractors are now specifying Westinghouse Water Coolers. Put Westinghouse in your future plans, too. Call your local Distributor listed in the Yellow Pages for complete information. Or write to Westinghouse Electric Corp., Refrigeration Specialties Division, Springfield 2, Mass.

YOU CAN BE SURE... IF IT'S Westinghouse



19 models to choose from . . .
exactly the right type and size for every need.



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"Round-the-clock inspection" by eagle-eyed Tile-Tex laboratory and "line" inspectors quickly nabs any imperfect tile trying to impersonate a piece of Flexachrome. And there's no reprieve for a tile found guilty of a single flaw.

During and after its run, Flexachrome is checked visually, chemically, and with scientifically designed instruments to assure perfection in coloring... marbleizing... flexibility... impact resistance... grease resistance... chemical resistance... sizing... lay-up... and cleanness of cut.

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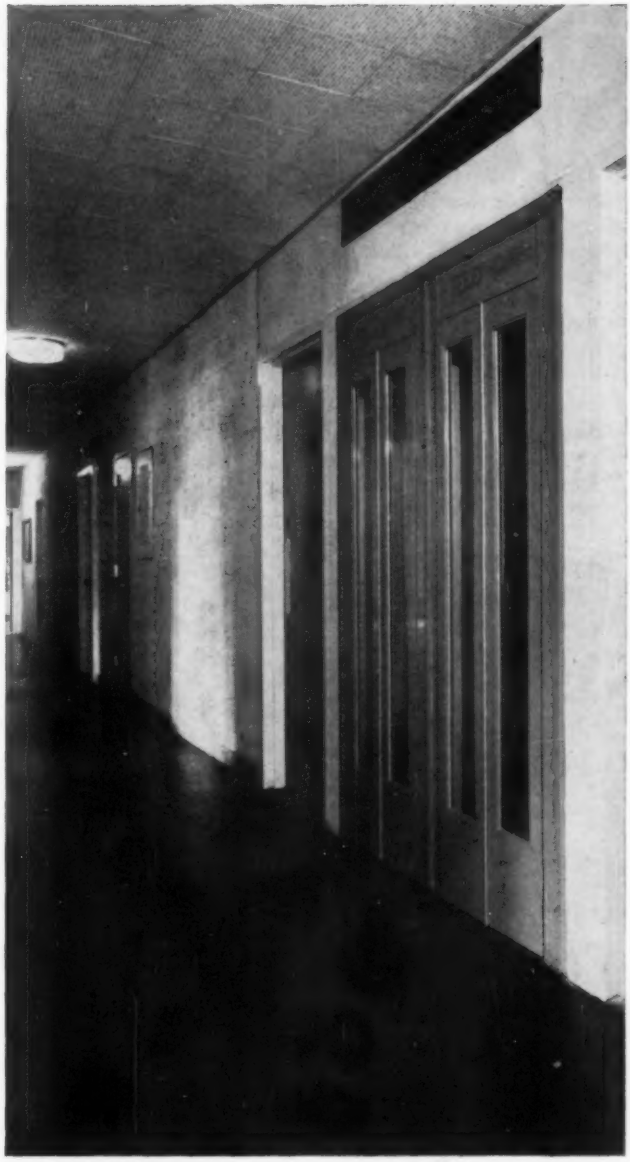
IN ENDURING BEAUTY
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IN SPACE ECONOMY
IN FIREPROOF SAFETY

You can readily fit Sherron steel booths into your plans for any college or school, anywhere. The trim classic lines of these booths commend them for the most modern interiors. They are the only metal booths suitable for recessed as well as free-standing installations. Joined groups of two or more, including directory facilities, can be easily set up to form a perfect alignment. Cover moldings and inter-connections are all pre-arranged, and each unit is a rigid, factory-assembled entity . . . Sherron steel booths come in lifetime stainless steel or zinc-coated cold rolled steel, with a choice of decorator colors in durable, baked-on DuPont enamel . . . Apply to your local telephone company or direct to us for engineering data.

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Shown above:

Typical recessed installation of multiple Sherron steel booths in Women's Residence Hall, University of Tennessee. All told, there are 25 Sherron booths in this one building of the University.

Architects:
BARBER & McMURRY, KNOXVILLE, TENN.

THERE'S A SHERRON BOOTH FOR EVERY LOCATION, INDOORS AND OUTDOORS, IN EITHER STAINLESS STEEL OR IN ZINC-COATED STEEL

THE RECORD REPORTS

(Continued from page 290)

nounced the opening of his offices at 2834 Alms Place, Cincinnati 6, Ohio.

• Andrew Mitropoulos and John V. Sheoris have announced the establishment of their firm as Mitropoulos and Sheoris, Architects, with offices at 33 W. 46th St., New York 36, N. Y.

• Schaefer and Schirmer, Architects, a new partnership composed of Robert J. Schaefer, A.I.A., and Henry W. Schirmer, A.I.A., have opened offices at 320 N. Topeka, Wichita 2, Kan.

Firm Changes

• Eggers and Higgins, Architects, have announced the naming of architects C. Gates Beckwith, Gustave R. Keane and Allen C. Parrette as associates in the firm, which has offices at 100 E. 42nd St., New York, 17, N. Y.

• Nielsen and Moffatt, architects and engineers of Los Angeles, have appointed engineer John Lander, architect Donald Wolverton and engineer Russell M. Ruggs as associates in the firm.

• Alfred Easton Poor and Albert Homer Swanke have announced the appointment as an associate of the firm of Mario Campioli, A.I.A., and as junior associates, George E. Via Jr., A.I.A., Robert B. Pils, Dominick L. Urgo and Harold G. Collins. The firm's new New York address is 400 Park Ave.; Washington offices are in the Pennsylvania Building, 425 13th St., N.W.

• Schmidt Garden & Erikson, Architects-Engineers, of 104 S. Michigan Ave., Chicago 3, Ill., have named 14 of their staff to partnership: Alexander H. Bacci, Gerald C. Dittman, Carl A. Erikson Jr., Richard O. Evans, Peter R. Fairbairn, R. Vale Faro, Raymond W. Garbe, Robert G. Haselhugh, Carl H. Mayer, Paul D. McCurry, Ralph O. Munson, Rudolph J. Nedved, Olin M. Schneider and Arvid F. Tessing.

• Smith, Tarapata, MacMahon, Inc., Architects, announce these changes in the firm: Almon Durkee, A.I.A., to be in charge of specifications, building products research, scheduling and budget control; James R. Newbold, chief draftsman, to be in charge of architectural department; William V. Hewitt, chief field superintendent; and Gordon Hoyem, chief mechanical engineer. Offices are located at 894 S. Adams, Birmingham, Mich.

New Addresses

Agnew and Ludlow, Architects, 25 Merton St., Toronto 7, Ont.

Robert J. Berg, Architect, 3113-24th Ave., Minneapolis 6, Minn.

Ulrich Franzen, Architect, 124 E. 40th St., New York 16, N. Y.

Hayward-Robinson Company, The Engineering Building, 114 Liberty St., New York, N. Y.

International Association, Architects, Engineers, 2627 W. Sixth Ave., Denver 4, Colo.

Joseph Kiell, A.I.A., Architect-Engineer, 10 E. 40th St., New York, N. Y.

F. Clifton Pearce, Architect, Suite 501 Electric Building, 507 Linden St., Scranton, Pa.

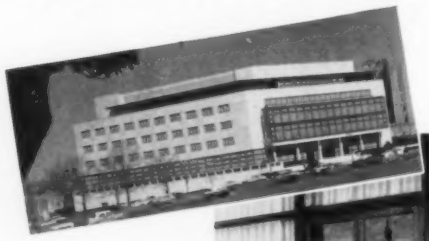
Perkins & Will, Architects, 55 Church St., White Plains, N. Y.

Arthur Rosenstein, A.I.A., 154 Boylston St., Boston 16, Mass.

Watson and Wiegand, Architect, 219 Front St., E. Robertson Block, Belleville, Ont.

(More news on page 302)

National Headquarters Building
INTERNATIONAL BROTHERHOOD of TEAMSTERS

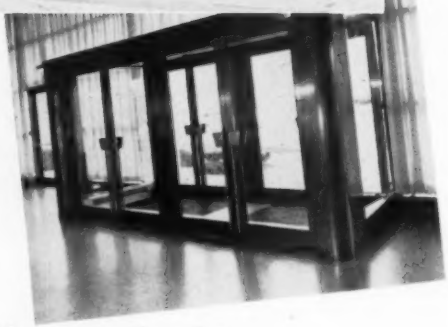


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THE U. S. BUILDING OUTLOOK AT MIDYEAR

1957 building activity is close to last year's all-time high despite divergent trends among individual building types. Strong basic demand for most kinds of structures points to a continuing high level of building for the remainder of 1957 and beyond, barring unforeseen setbacks to the economy as a whole.

WHAT'S HAPPENED SINCE JANUARY

Total contracts for U. S. building construction as reported by F. W. Dodge Corporation in the first five months of 1957 topped $10 billion—just 1% under the all-time high for the period set in 1956.

Table I below reveals gains for *most* building types. However, these gains were slightly more than offset by declines in manufacturing building, public building, miscellaneous nonresidential building and one- and two-family houses.

Table I

Percentage change in dollar volume of construction contracts in the U. S. as reported by F. W. Dodge Corporation, 5 months 1957 as compared with 5 months 1956.

BUILDING TYPE	
Commercial	UP 9%
Educational	UP 4%
Hospital	UP 50%
Religious	UP 15%
Social and Recreational	UP 4%
Large Residential	UP 21%
Manufacturing	DOWN 13%
Public	DOWN 7%
Miscellaneous Nonresidential	DOWN 15%
One- and Two-Family Houses	DOWN 8%

The Stable Sector of the House Market

Strong backing exists for the view that the volume of quality houses (principally architect-designed) has held steady in the face of this year's general decline in housing activity. Higher quality, higher priced houses are financed largely with conventional mortgages, and the number of housing starts with conventional financing so far this year is running ahead of 1956 and very close to the boom levels of 1950 and 1955.

As Table II and the chart both indicate, the conventionally financed sector is the stable part of the new house market. The entire drop in housing starts this year has occurred in the FHA- and VA-financed sector.

A primary cause of the drop in these government-insured housing starts has been "tight money." Lenders currently find it unprofitable to finance houses at FHA and VA rates pegged by the government at 5% and 4½% respectively. Money has continued to flow into conventional financing where interest rates are free to seek market levels.

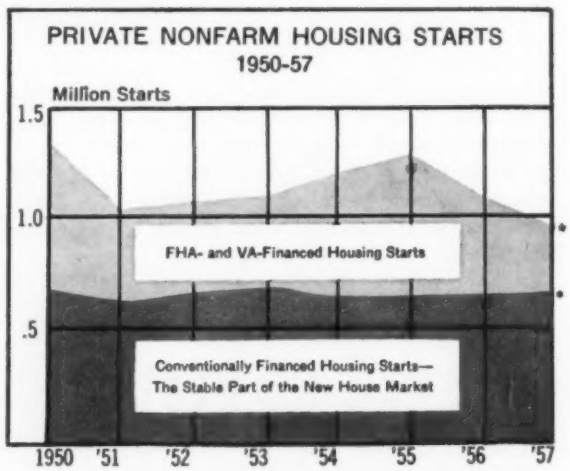
Table II

New Privately Financed Housing Starts
5 Months, 1956 and 1957

Thousands of Units

	1956	1957	
Total Starts	465.3	384.2	DOWN 81.1
VA- and FHA-financed	196.5	114.2	DOWN 82.3
Conventionally-financed	**268.8**	**270.0**	**UP 1.2**

The stabilized high level of conventionally financed quality house construction was underlined by an F. W. Dodge Corporation survey in March of 105 architectural firms in 25 cities which indicated that despite the over-all decline in housing starts in the first quarter *architects had more houses on their boards than the year before.*



*Based on figures for first five months; indicated uptrend likely to raise total for year.

SECOND-HALF PROSPECTS

Building activity during the second half will probably continue at—or close to—a record level.

At least a moderate comeback is to be expected in the residential category. Vacancy rates are now abnormally low, indicating the possibility of rapidly mounting housing shortages if the rate of home building doesn't improve.

In addition, liberalization of down-payment terms on government-insured mortgages, which now seems assured, should give a boost to residential activity.

Some improvement has already occurred. In May, for the first time this year, the monthly dollar volume of construction contracts for one- and two-family houses was at the same level as a year ago.

The large volume of nonresidential building projects *reaching the planning boards* of architects and engineers in the first quarter of 1957—together with undiminished basic demand for schools, hospitals and churches—assures a large volume of construction contracts in the last half.

THE LONGER TERM OUTLOOK

A prolonged continuation of record building levels is indicated. The basic demand factors that are operating are long-term factors nullifiable by nothing short of economic or international crisis. For example:

Population growth—

will continue at the rate of about three million persons annually with predictable effects on our needs for almost every type of building.

Family formations—

(basic demand factor in housing) are currently at their low point and increases are to be expected from now on. The rise will be gradual for several years, rapid in the 1960's.

Population mobility—

about 20% of the population moves to new localities annually.

Technological change—

is expected to continue at unprecedented rates spurred on by huge expenditures for research which are opening new vistas for industrial development.

Highway construction—

the vast program of highway construction now under way cannot fail to have far-reaching effects on building construction. Demolition of existing buildings will create demands for new structures, and easy access to newly developing areas will stimulate construction of houses, shopping centers and other commercial facilities, and industrial buildings.

Obsolescence—

will continue to be the chief spur to U. S. building. Behind the high rate of obsolescence of buildings in America is a free and energetic people hard bent on betterment. So it is that existing schools are being rapidly obsoleted by new teaching programs, hospitals by new medical treatments, factories by new production methods, stores by new merchandising techniques, and houses by new ideas for better living.

OUTLOOK FOR SPECIFIC BUILDING TYPES

Houses: Extremely low vacancy rates during the past year indicate a considerable amount of underbuilding in the housing field. Current potential demand amounts to at least 1¼ million housing units per year. Demand will continue to grow as the rate of household formation increases and the standard of living rises. Demolition of substandard units will provide additional demand.

Industrial Buildings: Expansion needs of the economy will continue rising in line with increases in population and the standard of living. Increased output per man hour will require newer and more efficient plants. This means high levels of demand for industrial buildings for years to come.

Stores: Additional merchandising facilities will be required to meet expected population increases. Construction of modern retail outlets will show continued gains due to the movement toward the suburbs and the added impetus of the Federal Highway Program. To cope with increased suburban competition, downtown buildings will have to be modernized, new buildings constructed.

Hospitals: Demand for additional hospital buildings is likely to rise sharply during the next decade. Higher standards of living, expansion of medical insurance plans and a large increase in the number of persons 65 years of age and over will all mean more pressure for medical care. Changes in hospital procedures will make older facilities obsolete.

Religious Buildings: The expected rapid rates of population growth will mean continued increases in the size and number of religious congregations. Church attendance, church membership and church financing potentials are all strongly on the increase. Suburban growth will also provide additional need for religious buildings. Expanding community functions of religious buildings (educational and social, primarily) are outmoding many church plants.

Educational Buildings: The school-age population will be increasing rapidly during the next decade. Large-scale construction of educational buildings will be required to meet the needs of these students. An even greater percentage of high school graduates than at present will go on to college, adding to the already tremendous pressure on such institutions for expansion.

Thomas S. Holden

Vice Chairman
F. W. Dodge Corporation

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(photograph courtesy Arkansas Foundry Co., Little Rock)

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used in cotton storage warehouses

because they're strong...yet lightweight

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THE RECORD REPORTS

(Continued from page 296)

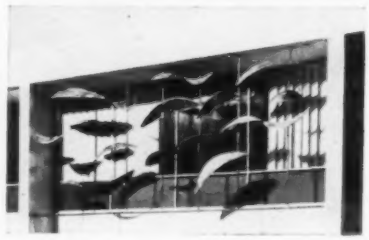
DORR-OLIVER FAÇADE USES 120-FT BRONZE SUNSCREEN

The new worldwide headquarters for Dorr-Oliver Inc., an international organization of process engineers, is under construction in Stamford, Conn. Sherwood, Mills and Smith of Stamford are the architects.

The principal feature of the façade will be a 120-ft bronze sunscreen designed by Sculptor Robert Cronbach of Westbury, L. I. The building will be essentially a two-story hollow square, measuring 264 ft on each side, with an entrance loggia opening the full width of the interior landscaped court. Located in the bridge over this loggia will be the company's executive offices, protected from the western sun by Cronbach's sunscreen of bronze vanes mounted on bronze pipes. The screen will be given a rough brown and green patina.







Building construction will be of reinforced concrete with brick veneer panels front and back; aluminum framed windows will be largely fixed. The building will provide 120,000 sq ft of office space for some 550 home office staff members of the Dorr-Oliver organization. Estimated cost is $2,500,000.

Partners in charge of the project for Sherwood, Mills and Smith are Thorne Sherwood and Thomas A. Norton. Structural engineers are Werner-Jensen and Korst, Stamford; mechanical engineers, Bernard F. Green Associates, New York; landscape architects, Bye and Herrman, Rye, N. Y. Deluca Construction Company, Glenbrook, Conn., is the builder. Completion is set for May 1958.

(More news on page 306)

DODGE BOOKS

for the active architect and engineer

The only complete, practical handbook with every item of basic information needed to execute a successful school building program.

SCHOOL PLANNING AND BUILDING HANDBOOK

by N. L. Engelhardt, N. L. Engelhardt, Jr., and Stanton Leggett

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by N. L. Engelhardt, N. L. Engelhardt, Jr., and Stanton Leggett

Elementary school building design today calls for a degree of planning and preparation unknown a generation ago. No longer is it sufficient to provide only for the 3 R's. Today, the school architect must understand the origin, objectives, and methods of modern education; he must provide for *teacher-pupil* activities which often include dramatics, music, crafts, group games, and even simple scientific experiments.

Planning Elementary School Buildings specifies exactly what these activities are, and what equipment and facilities they require. Containing over 300 illustrations, it gives you specific data to enable you to plan the kind of elementary schools today's children need.

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by the Editors of Architectural Record

Here, in 312 pages and over 900 illustrations, is a fully-detailed, vivid cross-section of new school buildings which best demonstrate today's sweeping advances in concept and design. 66 new schools were selected from all over the country to present a wide geographic and climatic variety. Each school is completely analyzed — plans, sections, and construction details are shown. Costs per square foot are indicated, and further breakdowns and comparisons are made on all other costs. In each case the architect tells his reasons for designing as he did, and even points out flaws which were revealed after the building was put to use.

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Ironbound Continuous Strip Rock Maple Floor in gymnasium of Midland High School, Midland, Michigan. Architect: Alden B. Dow. General Contractor: Barton-Malow Co., Detroit. Installer, Whitcomb-Bauer Flooring, Inc., Detroit.

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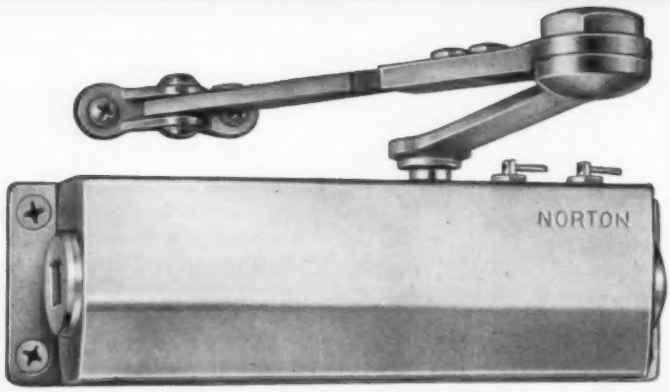
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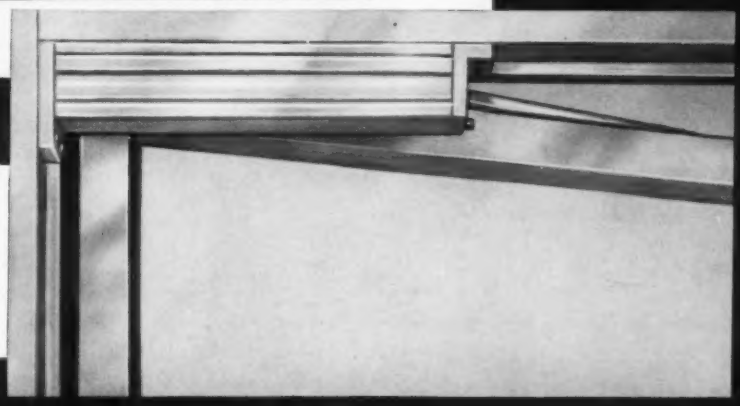
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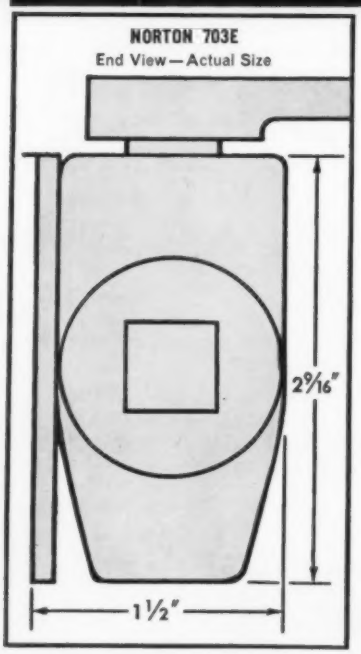
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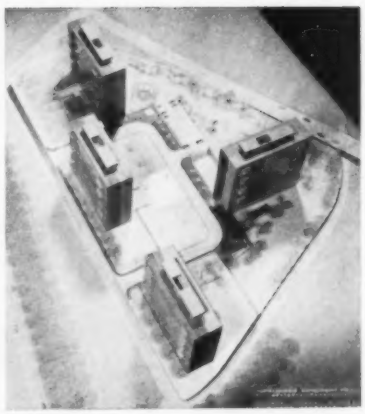
THE RECORD REPORTS

(Continued from page 302)

A REDEVELOPMENT PROJECT "PLANNED FOR HUMAN USE"

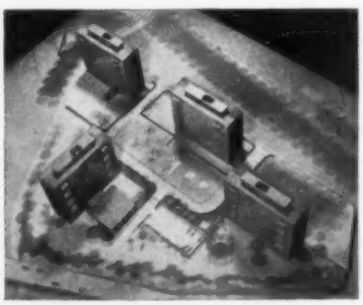
Now under way on a Philadelphia site known as North Triangle No. 1 — adjacent to Benjamin Franklin Parkway between Twenty-second and Twenty-fourth streets, a central location — is a redevelopment project comprising four 18-story apartment buildings containing 880 dwelling units; parking for 880 cars; 25,000 sq ft of commercial space; and play areas for children. Architects are John Hans Graham and Associates and Milton Schwartz; landscape architects are Collins, Simonds and Simonds.

The site plan, as described by the landscape architects, "is developed for human use and enjoyment. Monumentality is inherent in the solution," they note, "because of the Parkway location and the economic requirements demanding high-rise structures. Yet primarily the concept is a residential environment — a place for convenient living."



Site coverage is approximately 15 per cent. Location and orientation of the buildings were governed by these considerations: 1. Optimum use of the land after complying with the various site restrictions and program requirements. 2. Relationship of open spaces to buildings. 3. Views from apartments. 4. Orientation with care to minimize western sun and headlights of night traffic. 5. Responsibilities to the city of Philadelphia because of the prominent Parkway location. 6. Direct pedestrian and vehicular approach to each apartment building as well as to the commercial facilities. 7. Service circulation independent of tenant traffic. 8. Close proximity of surface and underground parking to each building with a minimum length of approach and exit roads, and ease of circulation.

The resulting scheme develops the entire site for residential use through a series of defined open spaces rather than a single monumental mall flanked by buildings. The emphasis is on a domestic scale in these spaces in contrast with the monumental scale of the buildings. The roof of the two-story parking garage becomes a town plaza, with a decorative wall flanking the main pedestrian way to the north, sitting areas along the promenade and a place beside the pool for outdoor eating. Eighteen fountain jets will rise from terrazzo squares set almost flush in the lawn of the plaza.



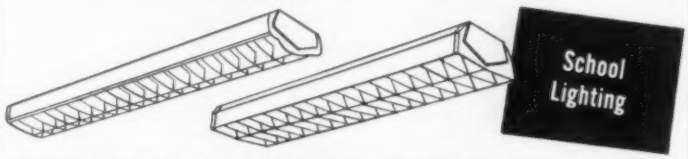
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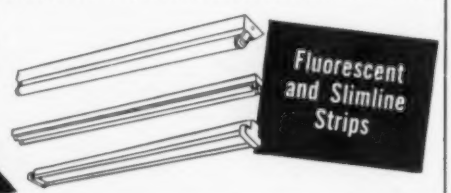


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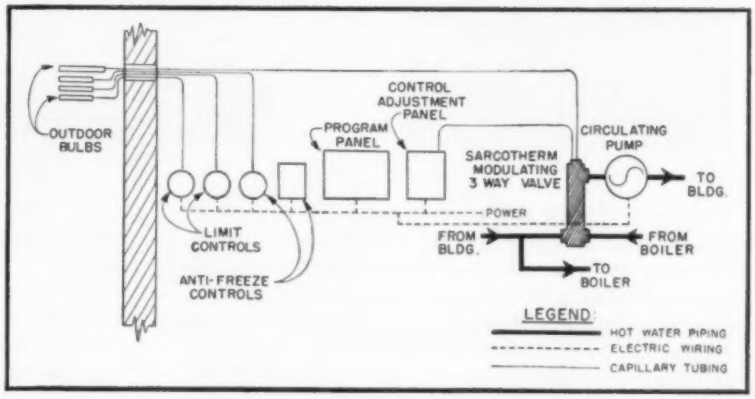
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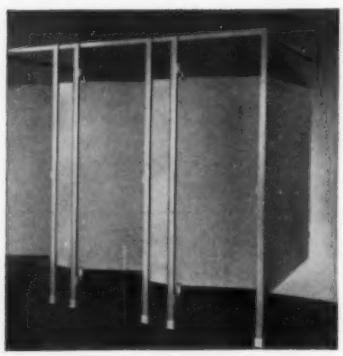
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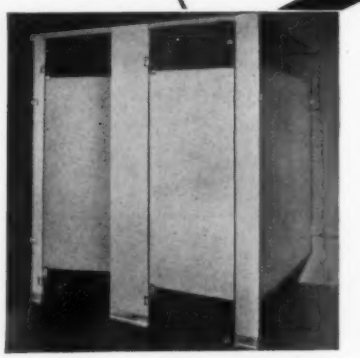
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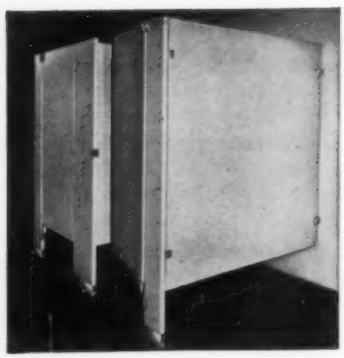
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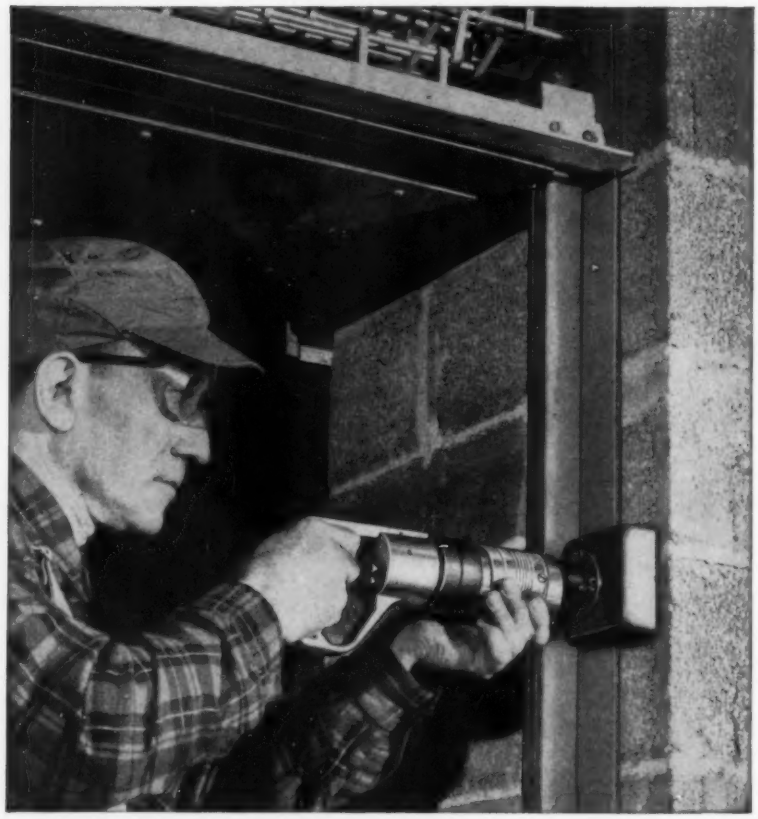
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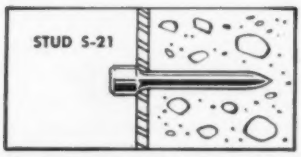
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THE RECORD REPORTS
WASHINGTON TOPICS

(Continued from page 48)

10 to 1 ratio, this boosts FNMA's borrowing authority by $650 million. The action raised the total mortgage purchase authority of FNMA to about $2.25 billion.

— Cooperative housing was given a boost with approval of a $100 million increase in FNMA's special revolving fund for purchase of FHA-insured Section 213 cooperative mortgages. Half the additional amount is reserved for consumer cooperatives as distinguished from builder cooperatives.

— Public housing plans and specifications are required to follow the principle of modular measure wherever this can be done feasibly.

— The conference committee rejected a Senate-approved proposal that a $75 million program be established to aid in construction of homes for the elderly, minority and middle-income groups.

— Congress approved a two-year farm housing research program, authorizing $600,000 — half for each of the fiscal years 1958 and 1959 — for grants to land-grant colleges for research and study.

— Not included in the final measure was a proposal that HHFA make a study of mortgage credit needs and report to Congress and the President by April 30, 1958.

U. S. URGED TO RESEARCH AIRPORT DESIGN PROBLEMS

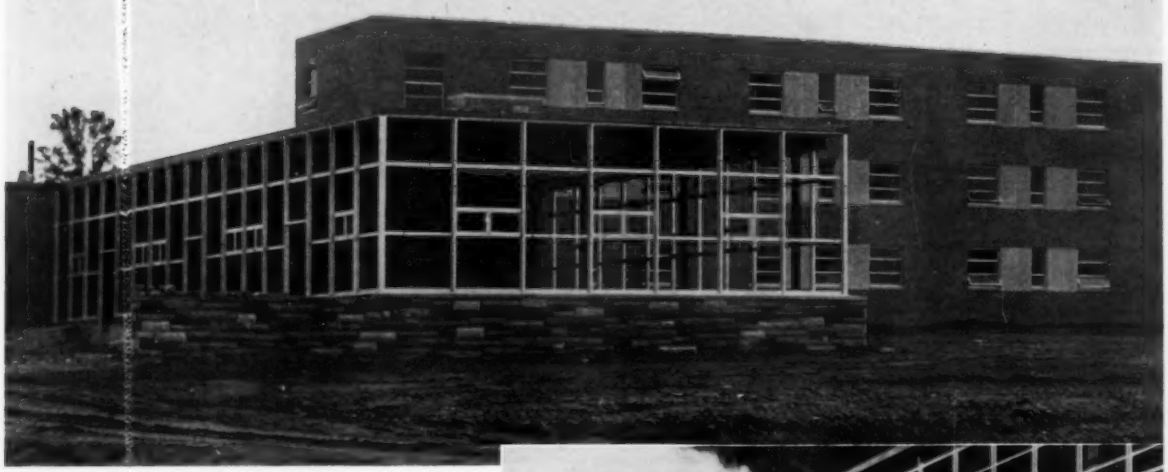
The White House now is in possession of a comprehensive report from the Systems Engineering Team of the Office of Aviation Facilities Planning recommending that the Federal government develop a long-range plan which indicates in broad terms the growth needed for military and civil airports.

Also recommended is development of a procedure requiring Federal approval of proposed locations of new military and civil airports to ascertain that their location is consistent with the long-range plan, and to determine that the required airspace is available to serve the long-range development of both the existing and the proposed airports.

The team report was made earlier this year to Edward P. Curtis, the President's special assistant for aviation facilities planning. It dealt with modernization of the national system over the next 20 years.

(Continued on page 314)

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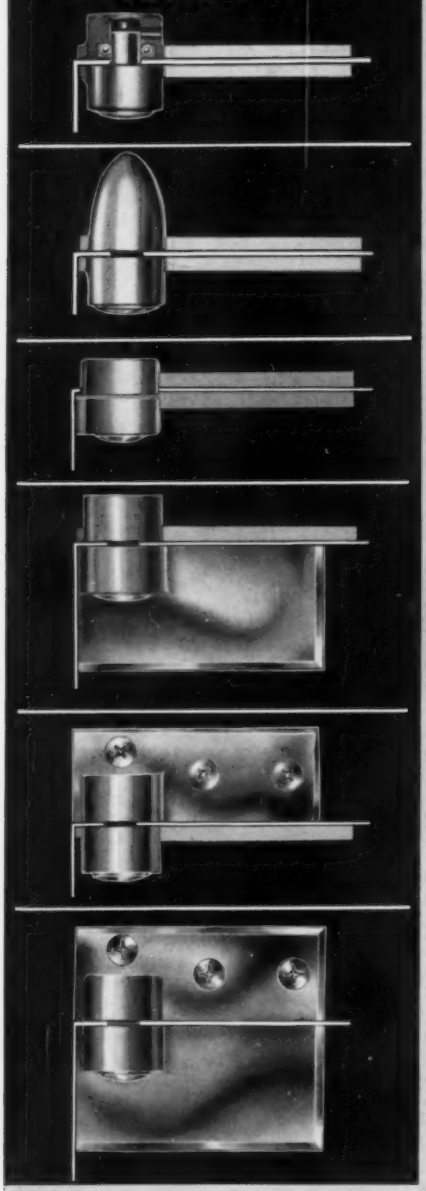
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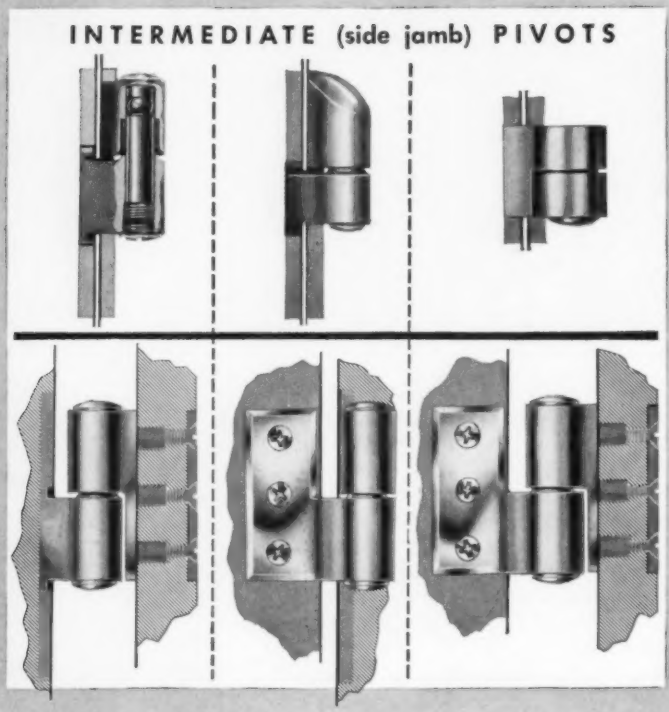
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Paul Lawrence Dunbar Vocational High School, Chicago, Illinois . . . This northwest view shows on the left the tan brick classroom building, daylighted with Aluminum Projected Windows. The gray-and-black brick central wing features an Aluminum Curtainwall. In all, five elevations are enclosed with Curtainwall Construction. Elsewhere in the project, galvanized Steel Windows provide compatible daylighting.

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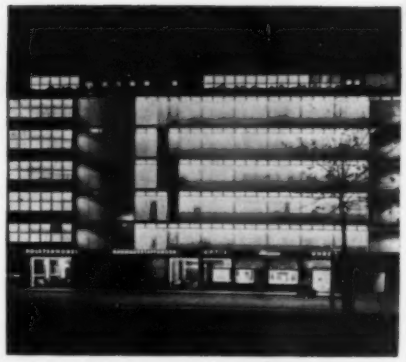
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All of the projects in this remarkable book were designed and constructed by Germans, and strongly indicate that German architects are entering a new era of originality. Although Germans, in their haste to rebuild, borrowed foreign ideas, a new independence has been dramatically evident since 1950. The authors believe that in some areas, particularly school construction, German architecture is reaching unsurpassed levels of creativity.







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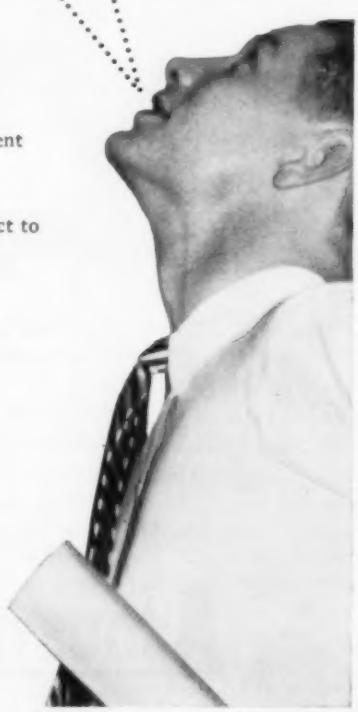


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Permalite lightweight insulating concrete, used in open-web roof deck construction, saves both construction time and material costs, since it allows lighter roof joists, spaced more widely, than do conventional construction methods. And it gives a roof deck of ample strength . . . roofing contractors have no hesitation in laying 20-year-bonded roofs on Permalite lightweight concrete roof decks.

Permalite lightweight insulating concrete provides such excellent insulating properties that many industrial buildings gain a completely satisfactory "U" factor *without a ceiling!* Permalite roof decks have been poured with a "U" factor as low as .091 for the completed roof deck, although such a very low rating is the exception.

Now hear this! Everything you need to know to specify Permalite lightweight insulating concrete roof decks has been spelled out for you, complete, in the Permalite Roof Deck Manual. Complete, reliable data gives you full engineering information in ready-to-use form . . . many types of roof forms and ceilings, with full tables on appropriate slab thicknesses, weights, strengths, and "U" factors with and without ceilings.

This manual, which will save you many hours of calculations on every job, is available from the Permalite franchisee nearest you. He is listed in the column on the left—write or phone him now!

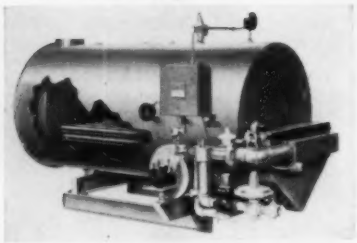
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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 310)

A subsequent report by Mr. Curtis to the President recommended that the comprehensive plan set forth by the Systems Engineering Team be used as a basis for airways modernization.

The Curtis document listed 48 functions of the Federal government affecting aviation facilities. These included (1) development of airport long-range plans; (2) carrying on of research and development on airports; (3) establishment of airport design criteria; and (4) design and construction of airports and air traffic control installations.

Listed among 17 Federal aviation policy problems was that of Federal sponsorship of airport design and experimentation.

Federal Actions Urged

The more complete team report pointed out that airports are designed, built, financed and operated by local authorities. This imposes need for a coordinated national and local effort to insure they do not become "the neglected element" of aviation. It was suggested that the Federal government exercise leadership to assure this coordination by providing airport authorities with:

1. Forecasts of expected traffic demands for airport use.

2. Criteria for determining the location of new airports.

3. Criteria for the design and layout of facilities at both existing and proposed airports.

Experimentation with terminals (both single airport terminals such as Washington National, and multiple airport complexes such as in the New York area) and the development of location and design criteria for airport facilities was recommended, this to begin as soon as possible.

A section of the Team report on airports dealt mainly with location. It concluded: "Finally, from the numbers of aircraft predicted for the next two decades, additional runway capacity will be required. We believe that further analysis and experimentation will yield data on which to build higher capacity airport configurations, and data on which local organizations can logically locate new runways and airports to furnish the maximum overall increase in airport capacity."

(Continued on page 316)

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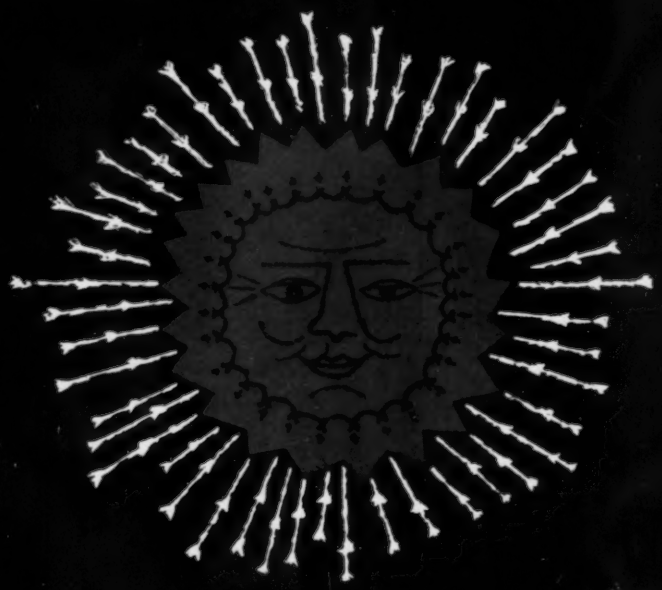
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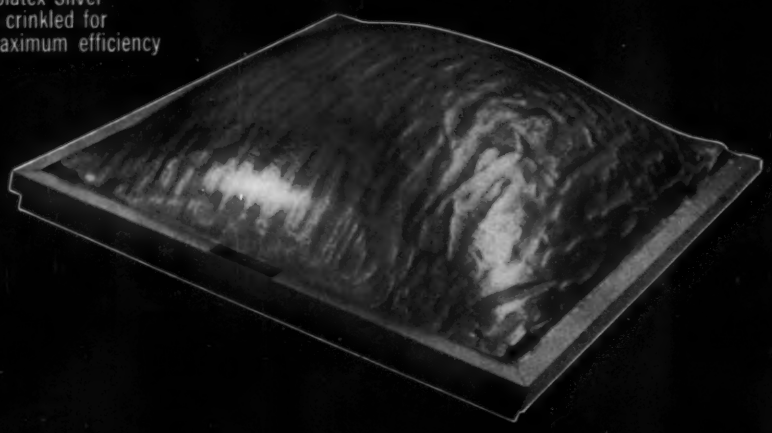
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NEW WASCOLITE REFLECTADOME* WITH SOLATEX SILVER



NOTE how Solatex Silver is crinkled for maximum efficiency



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the skydome that does all 3 reduces heat . . . eliminates glare . . . controls daylight

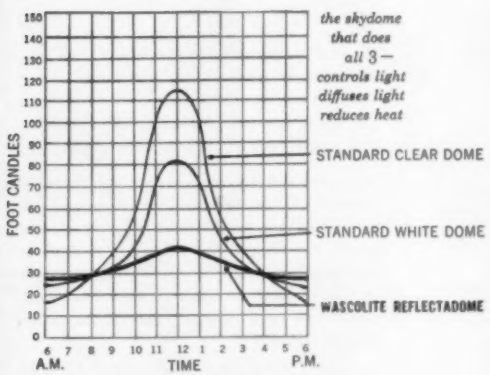
After years of development and research Wasco Products, the company that originated Skydomes, now offers you a revolutionary new overhead daylighting unit. It's Reflectadome, the one dome that reduces objectionable solar heat gain, eliminates glare and controls daylight — without supplementary light control fixtures.

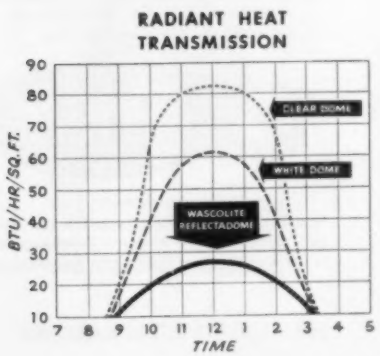
Reflectadome's secret is Solatex Silver, a special material embedded (not laminated) right into the acrylic dome. Reflectadome produces a remarkably level lighting curve to keep interiors evenly illuminated throughout the daylight hours for top visual performance.

Naturally, Wascolite Reflectadome features all the improved functional advantages of the Wascolite Skydome. Solatex Silver embedments are available only from Wasco, so specify Wascolite Reflectadome by name.

Write immediately for full details on exciting new Reflectadome, the one Skydome that does all 3! — reduces heat . . . eliminates glare . . . controls daylight.

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To be sure that the screws are properly driven, let us send you our Technical Chart showing how to select and use wood screws and sheet metal screws, how to drill pilot holes, etc. Also ask on company letterhead for our interesting, colorful descriptive brochure about Southern Screw Company. Address P. O. Box 1360-AR, Statesville, North Carolina.

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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 314)

BRAB ASSUMES A NEW ROLE IN FHA RESEARCH PROGRAM

The Building Research Advisory Board stepped off into an entirely new field of advisory relations with the Federal Housing Administration the first of July. Its seven-man technical studies advisory committee, with four consultants, met with FHA officials for two days to lay the ground work for its new operations with the government agency. Professor A. G. H. Dietz of the Massachusetts Institute of Technology is BRAB's committee chairman.

It was decided that henceforth FHA would present its trouble areas to the BRAB advisory group and that the industry men would shoulder the major portion of responsibility for determining what should be done, by whom and just how. This differs from the earlier BRAB advisory committee operation in which FHA submitted its own subjects to BRAB and a BRAB subcommittee went to work on each, subsequently making a full report to the government agency with certain recommendations.

The July meeting was mainly for organization purposes, but a few specific subjects were discussed. It was decided, for example, to name a BRAB subcommittee on soils to report back at the next advisory committee sessions (September 16 and 17) on just what it thinks ought to be done. FHA can point to several spots throughout the country where soils are posing problems because the outward growth from city cores has forced construction of housing on ground — such as fill areas — never before considered for home construction. The subcommittee named for this subject includes Charles D. Clark, Los Angeles community and land planner; Woodland G. Shockley, soils scientist and engineer with the Army Corps of Engineers, Vicksburg, Miss.; and Neils Thompson, materials expert at the University of Texas, Austin.

Other members of the BRAB advisory group as announced: Charles M. Goodman, A.I.A., Washington, D. C.; Richard Hudson, P. E., Montclair, N. J., chairman, National Association of Home Builders' Research Institute; Robert M. Brown, sanitary engineer, Baltimore, Md.; Kenneth Leitgabel, mechanical engineer, Milwaukee, Wis. Special consultants: Dr. Leonard E. Wood, civil

(Continued on page 322)

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* Trademarks "Super Satin Surface" and "Triple S" or "SSS"—Use licensed on products having a Super-sealed or Super Microsealed surface that satisfies the quality standards of the trademark owner.

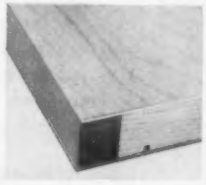
America's finest flush doors are Rezo doors with all wood grid core

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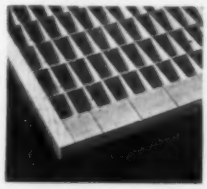
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Allison-Erwin Warehouse and Office built with deflected strand precast prestressed concrete members fabricated and erected by Concrete Materials Incorporated, Charlotte, North Carolina. The seven-wire uncoated stress-relieved prestressed concrete strands were manufactured by Roebling.

Floor bays 27′ x 27′, prestressed girders and double tees have poured-in-place cover which forms composite section. Live load 200 lbs. per sq. ft.

Roof bays 27′ x 54′, prestressed girders and double tees. Live load 30 lbs. per sq. ft.

Erection was speeded by use of precast reinforced concrete columns.

Architect-Engineer—J. N. Pease & Company, Charlotte, N. C.
Contractor—Goods Construction Company, Charlotte, N. C.

NOW—INCREASED LOAD CAPACITY with PRECAST PRESTRESSED CONCRETE MEMBERS using DEFLECTED STRAND TECHNIQUE

Many successful applications in structures of virtually every description have proved the tremendous benefits of precast prestressed concrete members using straight strands.

Now architects and fabricators are finding that the deflected strand technique *further increases* the maximum span and load-carrying capacity of precast prestressed members. In fact, the only limitations of this method are casting-bed capacity and transportation facilities.

An additional advantage can be gained in multiple span structures by the use of continuity. This is achieved by placing ordinary reinforcing bars across the construction joints and pouring a small amount of concrete in place around these bars.

For data on tensioning elements and general information on prestressed concrete, write Construction Materials Division, John A. Roebling's Sons Corporation, Trenton 2, New Jersey.

Consult Roebling . . . First in U. S. with prestressing and tensioning elements.

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Installed through the wall, General Electric *Thinlines* completely air condition luxurious new apartment at 5125 Fifth Avenue in Pittsburgh.

80 General Electric Thinlines air condition new Pittsburgh apartment

"We wanted air conditioning that would match our new apartment in both appearance and comfort," says Herman Kamin, owner of 5125 Fifth Avenue. "General Electric *Thinlines* met our needs exactly.

"*Thinlines* fit flush with the building line on the outside, flush with the draperies on the inside. And they give tenants complete control of the temperature in their own apartments."

No Ductwork Needed

Only 16½ inches thin, *Thinlines* fit almost any window—even fit right through the wall. Best of all, you don't need plumbing or ductwork to install them.

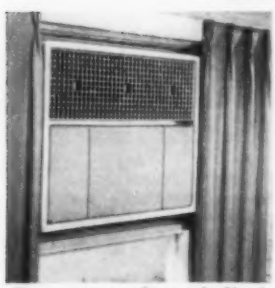
With individual *Thinline* units, the temperatures in each room can be independently controlled. You don't have to pay to cool rooms that are not in use.

Thinlines come in ½, ¾, 1 and 1½ hp. models—one just right for your air conditioning needs. See your General Electric distributor soon for full details. General Electric Co., Appliance Park, Louisville 1, Kentucky.

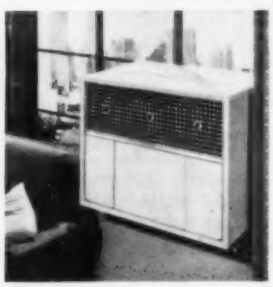
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GENERAL ELECTRIC

—Look how many ways you can use the General Electric *Thinline*—



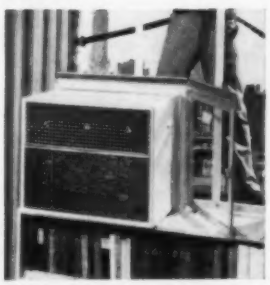
Fits upper or lower half of double-sash windows . . .



Fits most casements without altering window . . .



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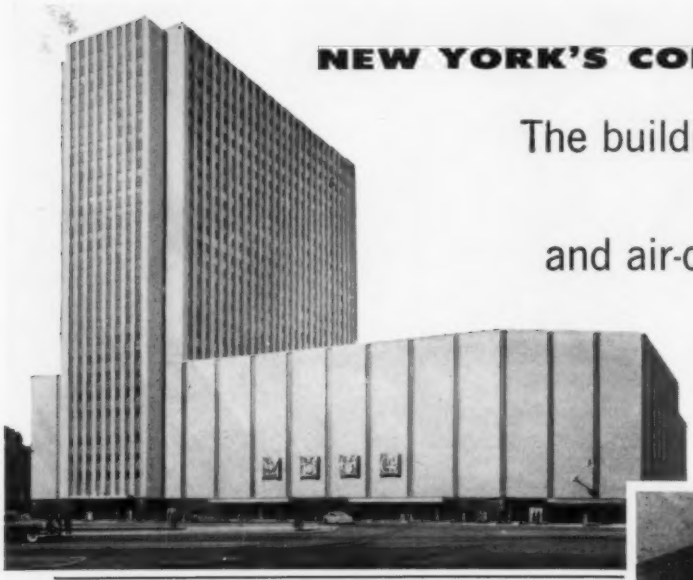


Swing-away panel allows easy access for window cleaning.

NEW YORK'S COLISEUM—

The building that "has everything"
has heating
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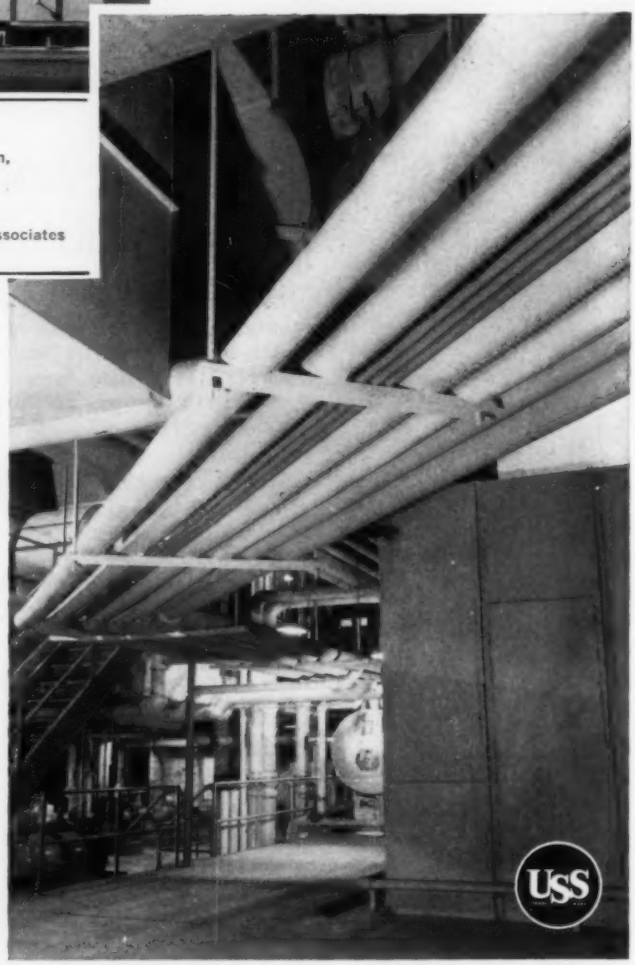
OWNER: Triborough Bridge & Tunnel Authority
ARCHITECTS: Leon & Lionel Levy
CONSULTING ARCHITECTS: Eggers & Higgins, John B. Peterkin, Aymar Embury III
GENERAL CONTRACTOR: Walsh-Fuller-Slattery
HEATING & AIR CONDITIONING: Almirall & Company, Inc.
MECHANICAL & ELECTRICAL ENGINEERS: Guy B. Panero Associates
STRUCTURAL ENGINEER: Dr. Jacob Feld

NEW YORK CITY'S COLISEUM is one of the most distinctive and functional structures ever conceived. Its 26 floors and giant exhibition hall comprise an auditorium area capable of seating over 10,000 persons, approximately 1,000,000 sq. ft. of usable floor space, and an 850-car underground garage. Except for the garage, the building is completely air conditioned.

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NATIONAL PIPE

UNITED STATES STEEL





AT TRUETT MEMORIAL UNIT OF BAYLOR UNIVERSITY HOSPITAL, DALLAS, TEXAS, where above photos were taken, come and see operatorless Westinghouse Elevators equipped with Traffic Sentinel Doors.

WESTINGHOUSE TRAFFIC SENTINEL ELEVATOR DOORS ARE

SAFE AND CONVENIENT

Hospital personnel, patients and visitors ride with complete confidence and safety in Westinghouse Operatorless Elevators in Truett Memorial Unit of Baylor University Hospital. That's because these elevators are equipped with Westinghouse Traffic Sentinel Doors. Once the doors open, Traffic Sentinel *keeps* them wide open until all are inside the car. No threats of premature closing. No frightening "snapping action" as if doors were about to close. Yet an instant after the last passenger is safe inside the car, these magic Westinghouse doors close quietly and safely.

These elevators save time, lower the over-all cost of vertical transportation, provide the ultimate in passenger convenience and service. Ask your nearest Westinghouse Elevator Representative for complete details.

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THE RECORD REPORTS
WASHINGTON TOPICS

(Continued from page 316)

engineering and streets, Purdue University; Richard E. Pollman, prefabrication, Toledo; and Louis Winnick, statistics, New York City.

It was determined that FHA already has the built-in machinery in its own operation for handling studies in housing technology; the advisory group will work with the government agency in applying its facilities in the solution of individual problems.

On the soils question the industry representatives decided FHA had available to it all the information it needs to delve into the problem and analyze results. But other problems occur in the variety of testing procedures now in existence throughout the country. There is said to be no uniform classification system; each of many localities will have its own testing method on compaction, for example.

The BRAB advisory unit will meet with FHA more frequently, four to six times each year, it was decided. This will give an opportunity for a closer scrutiny of projects in all their stages. Each meeting will find the group considering new FHA trouble areas, reviewing the progress of going studies, and appraising results of those that have been concluded.

There was enthusiasm at FHA for the new approach. Neil Connor, head of the agency's architectural standards division, said he welcomed the setup whereby industry representatives would be making the decisions on the research studies. FHA already has been following a similar course in its dealings with the Forest Products Laboratory and the National Bureau of Standards, getting the best technical help it could on methods for solving the many problems in housing technology.

BUILDING MATERIALS AND RADIOACTIVITY: HOW MUCH?

For the first time, building materials have entered Congressional consideration of the potential dangers of world radioactive fallout from nuclear blasts.

Reference to inherent radioactivity in wood and brick and lightweight concrete was made recently by Dr. W. F. Libby, Commissioner, U. S. Atomic Energy Commission, in remarks before a special subcommittee on radiation of the joint committee on atomic energy.

(Continued on page 326)

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Dine in the splendid old world setting of a grand dining room. The menu is varied, the service unexcelled.

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One of the brightest of the city's supper clubs. Dancing nightly from 9:00 p.m.
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Plus sports events on TV.

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the PATIO
Pause — in the relaxing, informal atmosphere of the gayly decorated Patio. It's a Cleveland habit to say — "Meet me at the Patio."

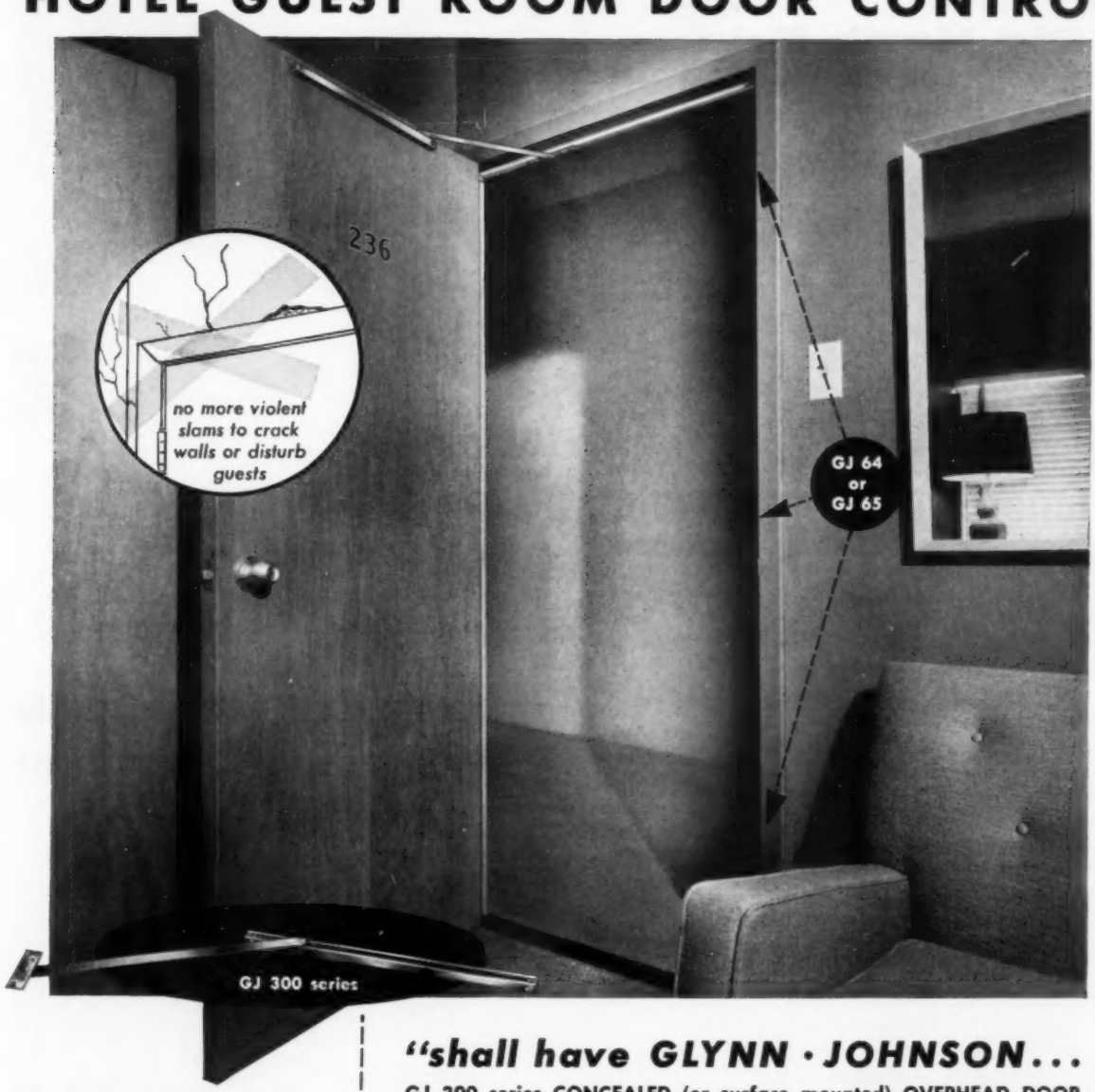
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Service is brisk and decor cheerful in the modern, air-conditioned coffee shop. Enjoy a tasty sandwich or a moderately priced meal.

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The Morris Inn, "On the campus," Notre Dame, Ind. Holabird & Root & Burgee, Chicago, Ill. — architects

All above hardware can be quickly installed on existing guest room doors.

"shall have GLYNN · JOHNSON...

GJ 300 series CONCEALED (or surface mounted) OVERHEAD DOOR STOP with FRICTION CONTROL." (Door is under constant control of friction. Eliminates guest disturbing noise of doors slamming open or shut. Opening swing of door is stopped by a shock absorbing spring cushion at any degree specified up to 110°. Door stop is mounted overhead, out of the way. Avoids interference with cleaning and the stumbling hazard of base type stops.)

"THREE GJ 64 for metal frame (or GJ 65 for wood frame) RUBBER SILENCERS." (Form pneumatic air pockets to absorb shock and noise of closing and create constant latch tension . . . no door rattling.)



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Old North Bridge

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Concord, Massachusetts. Photo of dedication ceremonies courtesy Mass. Dept. Public Works. Cabot's # 345 Smoke Gray Stain used.

Cabot's

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SPECIFIED

Here *"By the rude bridge that arched the flood . . . the embattled farmers stood, and fired the shot heard 'round the world."*

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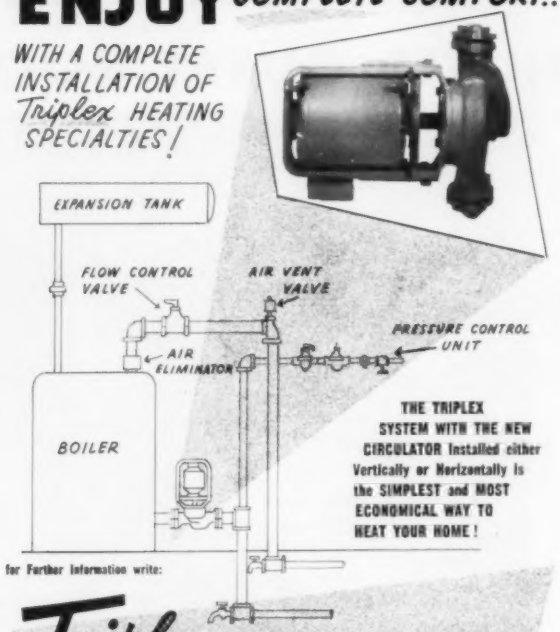
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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 322)

He admitted that American scientists are only now beginning to explore the detailed characteristics of certain construction materials insofar as they react to fallout, but he called upon data gathered in greater measure by foreign scientists in telling members of Congress:

". . . In Sweden, Hultqvist has shown that homes of wood give an average dose in the center of their rooms of 80 to 90 milliroentgens per year, while those of brick give 140, and those of lightweight concrete with alum shale, over 200. These numbers are to be compared with present U. S. fallout doses (and remember that the U. S. as far as we know is the highest in the world) of one to five milliroentgen per year."

Natural Dosage vs. Fallout

Dr. Libby's testimony stressed the acknowledged fact that normal living experiences give doses which far exceed those from fallout. Study results have proven, he noted, that a wide variety of ordinary experiences give doses far in excess of those from nuclear weapon discharges — experiences such as "living in the mountains, moving from one locality to another where the difference in uranium and thorium content of the ground may be very different, living in a brick instead of a wooden house."

Yet, it is a queer facet of the present situation, commented Commissioner Libby, that far more is known about fallout dosage than about natural dosage: "Somehow, even those who have known for years about the wide variation in natural dosages have been more concerned with the study of test fallout than of building materials, homes, public buildings, school rooms, etc. We have only recently started measuring brick and arranging for widespread natural dosage studies. . . ."

The reference to building materials was a part of Dr. Libby's extended remarks to Congress on Project Sunshine, the study of world-wide radioactive fallout and its effects on man. Trade associations in the construction industry were watching discussions closely, the National Lumber Manufacturers' Association already having issued a news release based on Dr. Libby's statement, calling attention to the comparisons.

(Continued on page 330)

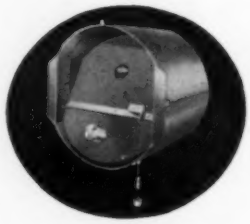
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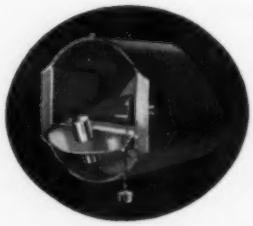
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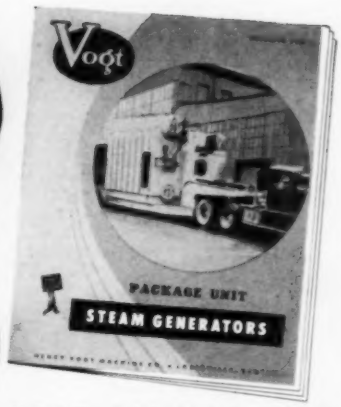


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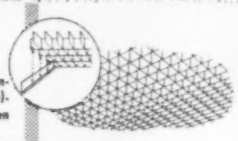
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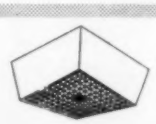
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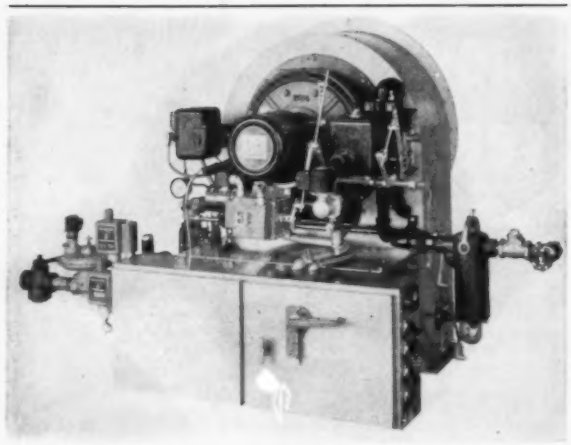
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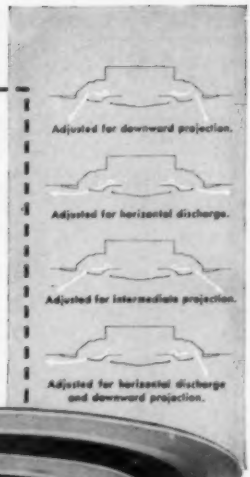


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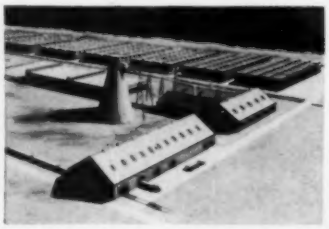
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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 326)

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Also asked was quick establishment of an approved products/materials list which would be incorporated by reference in all Title VIII military housing specifications. Such a list would be open at all times for further additions or deletions as determined desirable by the Secretary.

Commenting on the proposal, the managers' statement read:

"This, however, would not in itself be a complete answer to the problem, for it is well known that Federal specifications neglect many categories of products entirely or leave out some products which are as good or better and which by being included in the competition, along with those products covered by Federal specifications, would reduce costs to the government.

"In addition, qualification for the Federal specification list is a long time-consuming process which in some instances may require as long as three years for approval. We believe this latter point could be corrected by the Armed Services through the establishment of an approved products/materials list to be incorporated in all Title VIII military housing specifications.

"This would have the effect of making all products on such a list acceptable by all government architects or contracting officers engaged in the military housing program and this a part of all military housing specifications, and would do much to eliminate the criticism now being dircted against the present contracting procedures used in this program."

(Continued on page 334)

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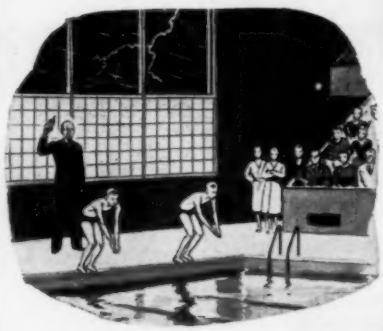
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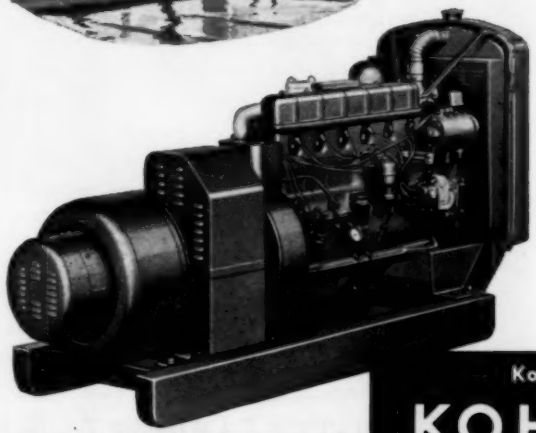
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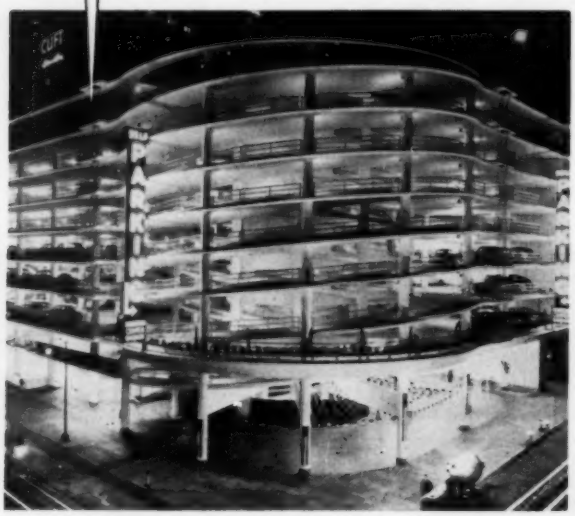
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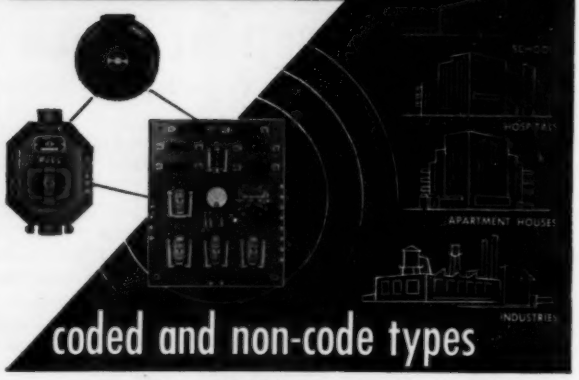
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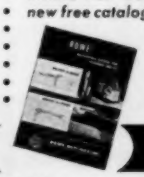
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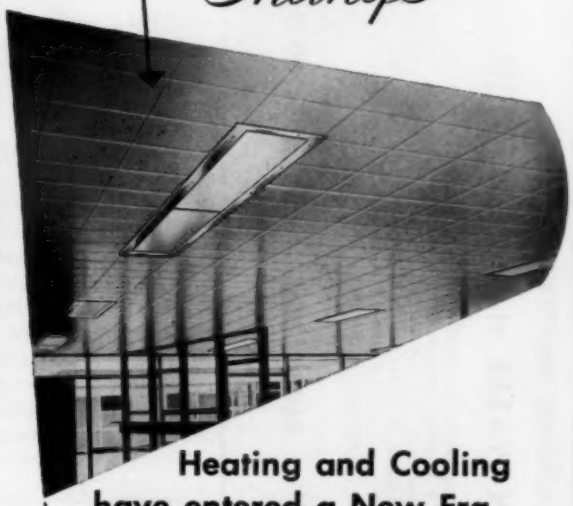
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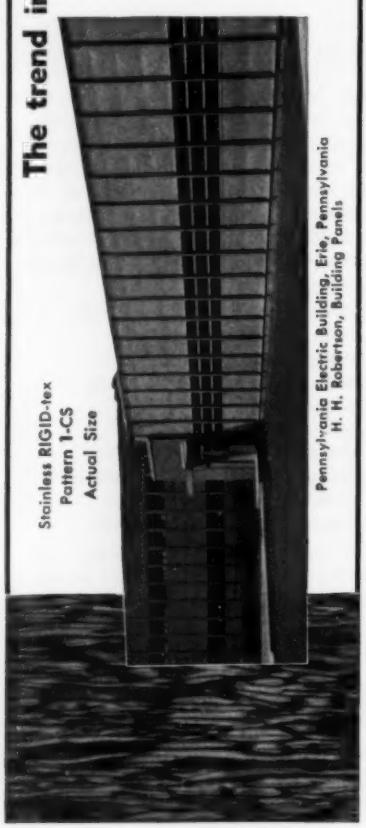
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Stainless RIGID-tex Pattern 1-CS Actual Size

Pennsylvania Electric Building, Erie, Pennsylvania
H. H. Robertson, Building Panels

THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 330)

FLOOD INSURANCE PROGRAM DEFERRED TILL NEXT YEAR

Tired of trying to pry funds out of an economy-minded Congress, the Housing and Home Finance Agency mothballed its Federal flood insurance program for a year.

After seeing the House defeat a move to include $14 million in an appropriations measure to launch the program following a year of preparation for it, Housing Administrator Albert M. Cole said he would put the plans on the shelf temporarily and hold the operating program in readiness for presentation again to the Congress next year. Spending money on a re-study of the detailed study already made in the field would be a waste of money, Mr. Cole said.

College Outlook *(Cont. from page 16)*

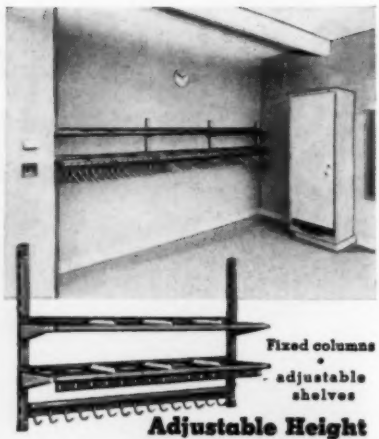
walls and wood, load-bearing masonry walls and steel, steel and masonry walls, lift-slab reinforced concrete, reinforced concrete, quonset and temporary steel or "other."

Data also is being gathered on air cooling, total gross space, and source of funds.

The effort has been divided, administratively, into three parts: (1) information pertaining to buildings completed in the five years, 1951 through 1955; (2) information relating to buildings planned to 1970; and (3) information relating to plans and studies made in looking to the future.

To round out the value of the undertaking, data now is being collected on completions between January 1, 1956, and June 30, 1957. The questionnaire containing the schedule on this subject was mailed out from Washington at mid-year. It asked for date of completion by month and year, primary and secondary functions of the buildings, gross sq ft, total estimated cost, and source of funds. This type of request will be repeated as the survey goes forward to give HEW a file on completions that will be as up to date as possible.

Largely responsible for the survey work at HEW is Dr. W. Robert Bokelman, specialist in college business management in the division of higher education, U. S. Office of Education.



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Dual-purpose wardrobe rack. Provides two 4 ft. hat shelves, 4 ft. Hook and Hanger rails for coats adjustable in height to all age groups. 4 ft. overshoe shelf. And, on other side a 50" x 48" chalkboard. Portable or stationary.



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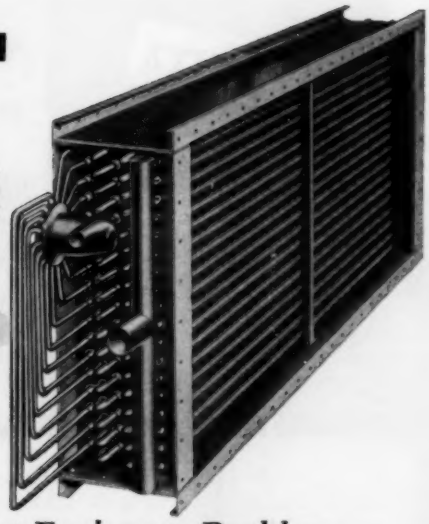
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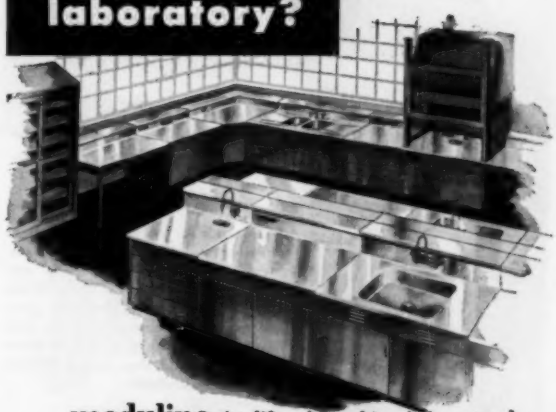
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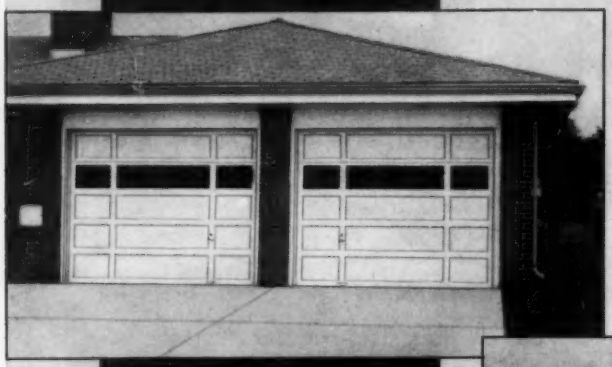
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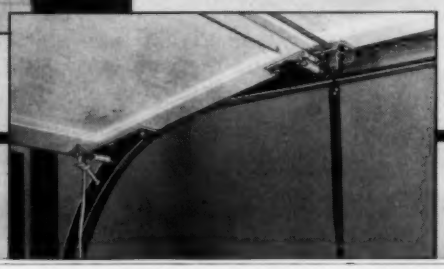
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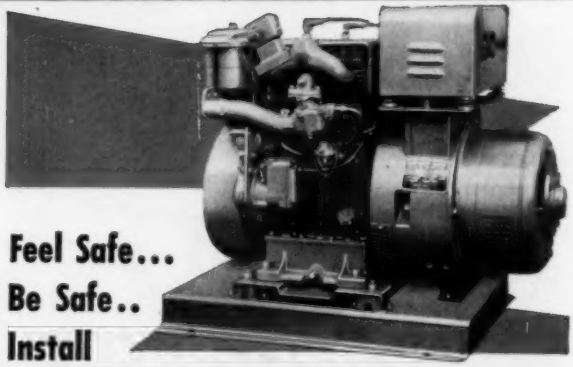
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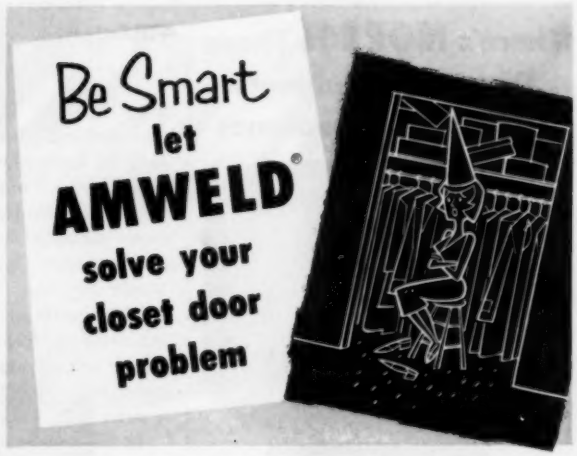
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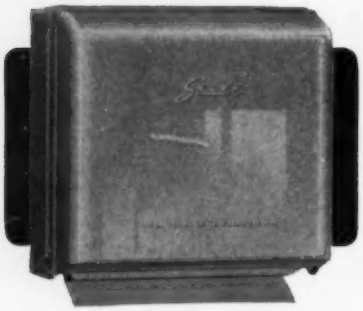
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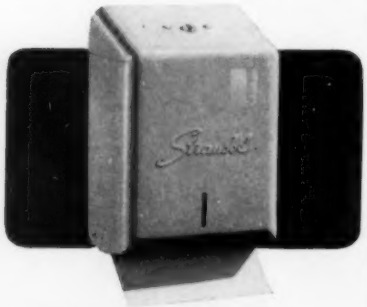
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REQUIRED READING

(Continued from page 60)

and married, with or without children, housing harmoniously grouped to provide varying "walls" enclosing "spaces that sing." People would not have to move out of the area when their housing needs change. A sense of community would develop. A number of these neighborhoods would be integrated, yet separated, to form a new town limited in size and surrounded by an inviolable green belt. This town would be one of a series in an organized region.

In his forword to this revised edition of the book, Mr. Stein stresses that the subject is *Toward* new towns. He has pointed the way. Other countries have followed and gone further. With close cooperation from industry, we could too. If we do not, then in the New York metropolitan region alone the 4,000,000 population increase expected in the next twenty years is destined to a compromise subtopian existence in "look-alikes" or "no-look-alikes." Urban renewal, too, will be as aborted as public housing, unless it is based on good urban design as Stein and others have conceived it.

The time is ripe for welding together the many federal, state, local and private interests concerned with planning, design and construction of all types, including the vast highways program, and to set them to building a variety of new towns at the same time they are rebuilding the old. A New Towns Act could provide the legal machinery for establishing, in the New York region for example, thirty or so self-contained new towns of about 100,000 population each.

Stein's book is an elemental basis for an American new towns movement. Large-scale architects and builders, urban designers and city planners will find the book particularly valuable, as will also park planners, landscape architects, site engineers, and public housing and urban renewal specialists. But anyone concerned with improvement of our urban environment will find *Toward New Towns For America* of interest.

CURRENT BOOKS FOR REFERENCE

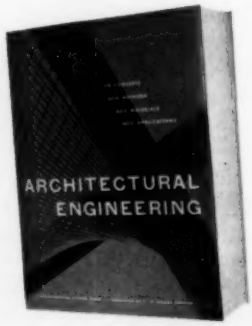
Urban Land Use Planning by Stuart F. Chapin, Jr.; Harper & Bros. (N. Y.) 1957; 397 pp., illus. $8.00.

Reinforced Concrete Design: Elastic & Creep by George E. Large; The Ronald Press Co. (N. Y.), 1957; 525 pp. illus. $7.00.

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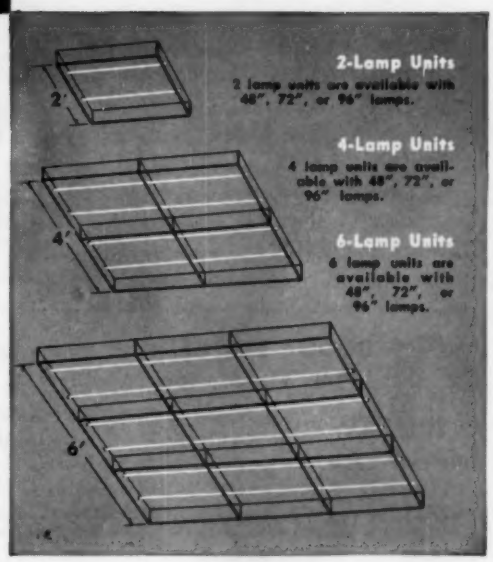
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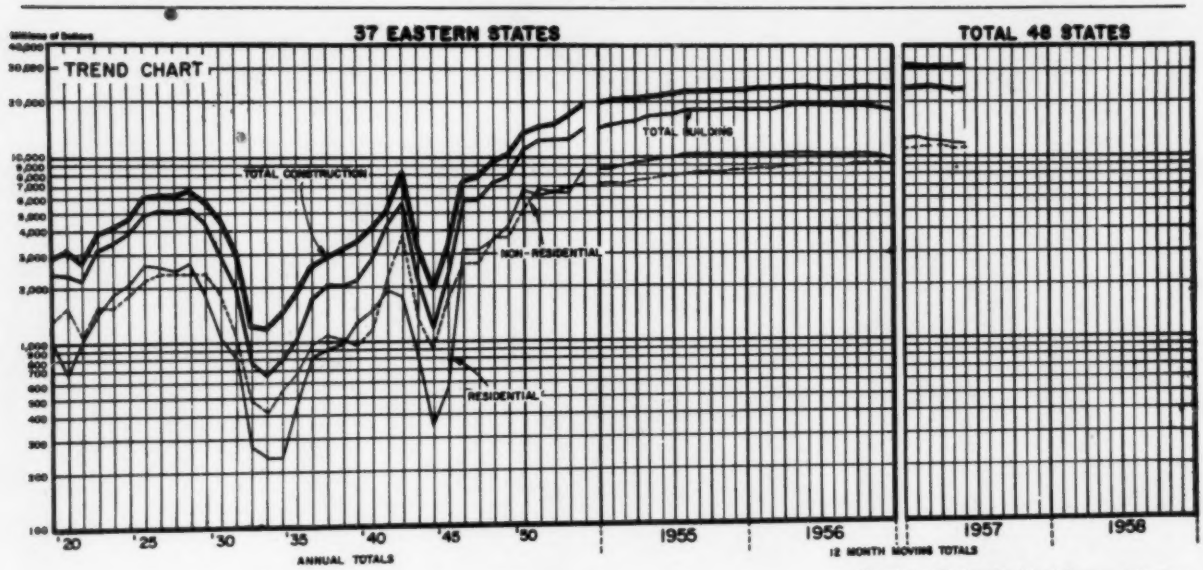
Save time by using Bethlehem High-Strength Bolts on your next construction job. The nearest Bethlehem sales office will be glad to supply full information. Or, if you prefer, write to us at Bethlehem, Pa.

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On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM STEEL

BETHLEHEM STEEL



Charts by Dodge Statistical Research Service

MAY TOTALS RISE AS HOUSING IMPROVES

For the first time this year, monthly construction contracts for one- and two-family houses moved up to a level with May 1956, according to national figures released by F. W. Dodge Corporation. This slight rise in dollar volume was not duplicated in the total of units, down five per cent from last May at 101,741, and was offset in the total residential picture by a slight decline in large residential building, bringing May's residential total to $1,297,258,000, one per cent below last year's figure. It was regarded by Dodge vice chairman Thomas S. Holden, however, as the possible harbinger of "the long awaited improvement in housing activity." In other categories: nonresidential building at $1,119,587,000 was up 11 per cent, with gains noted particularly in hospitals, education and science building, commercial buildings and manufacturing buildings; heavy engineering contracts rose 48 per cent above last May's total with $982,683,000. Altogether, contracts totalled $3,399,528,000 in May, a 14 per cent increase over activity a year ago. Cumulatively, the first five months of 1957 were four per cent above the same period last year with a total of $13,714,519,000 in construction contracts.

Source: F. W. Dodge Corporation

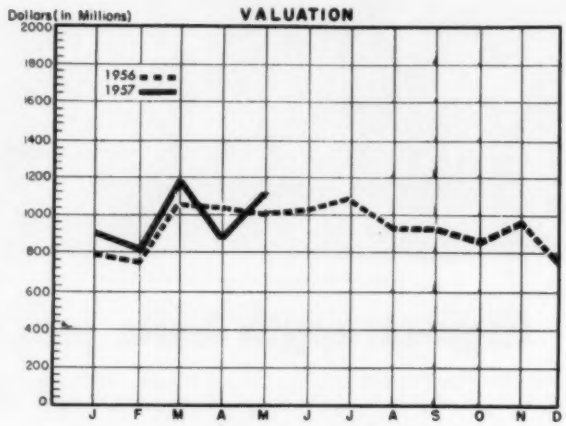
ONE- AND TWO-FAMILY HOUSES

Construction Contracts—Regional Comparison

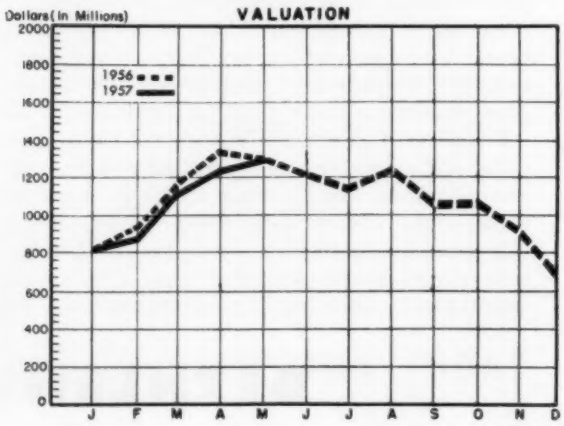
Valuation (in $ thousands)

Region	5 mos. 1957	5 mos. 1956	% change
I (Boston District)	247,197	245,659	+ 1
II (Buffalo, N. Y. C., Phila.)	816,024	911,893	−11
III (Atlanta, Birmingham)	523,136	491,844	+ 6
IV (Cinti., Cleve., Pittsbgh.)	451,931	484,812	− 7
V (Chi., Detroit, Mpls.)	830,606	1,033,432	−20
VI (N. Orleans, St. Louis)	278,682	248,602	+12
VII (Dallas, Kans. City)	451,551	432,214	+ 4
VIII (11 Western States)	986,028	1,119,307	−12
48 States Total	4,585,155	4,967,763	− 8

NONRESIDENTIAL BUILDING



RESIDENTIAL BUILDING





How can you heat an apartment building to please everyone?

By letting each tenant select the temperature he likes in each room

IRON FIREMAN SelecTemp® HEATING

EVERY ROOM IS A SEPARATE HEATING ZONE with its own thermostat. Tenants can control the temperature according to their own preferences. The SelecTemp room heating unit automatically paces itself to supply just the right amount of heat needed. Unlike conventional "on-off" heating systems SelecTemp *modulates* from a slow "idling speed" up to full capacity. If one side of a building or home faces a cold wind while the other gets heat from the sun, the SelecTemp heating system automatically adjusts for this extra heat loss or gain *in each individual room.* In each SelecTemp unit the air is filtered, then heated by low pressure steam and circulated by a steam driven fan. There is no electric motor—both fans and thermostats are non-electric.

FOR ALL TYPES OF BUILDINGS AND HOMES Iron Fireman SelecTemp heating is ideal for any type of building or home, new or old. From the largest apartment, hotel, office or institutional building to the smallest residence, Iron Fireman SelecTemp system gives the same responsive and dependable service. It's a new, yet thoroughly proved method of heating that sets new standards of comfort and economy.

LOW INSTALLATION AND OPERATING COSTS. The installation of Iron Fireman SelecTemp in new or old construction is economical and practical. Installation costs are low. Overheating is eliminated and many owners report substantial savings in fuel bills.

FOR COOLING. Individual unit cooling with SelecTemp heating makes the perfect twosome for year 'round comfort.

Send for free literature. If you plan to build or modernize a building or a home, you owe it to your client and yourself to investigate Iron Fireman SelecTemp before deciding on any heating system. Don't miss the opportunity to learn about this great modern engineering advance in heating . . . Iron Fireman SelecTemp. Mail the coupon below.



SelecTemp room unit indicated by arrow.

Lee Street Apartments, Oakland, California.

"The installation presented an engineering problem," says Mr. Gordon Peterson, General Contractor, "as the boiler room is located at the extreme end of the building, a distance of 420 feet from the last SelecTemp unit. The system's flexible operation, its ability to heat only the occupied rooms, as well as its immediate response, is commended by our tenants. We feel that the SelecTemp heating system is the finest that has been devised for apartments" . . .

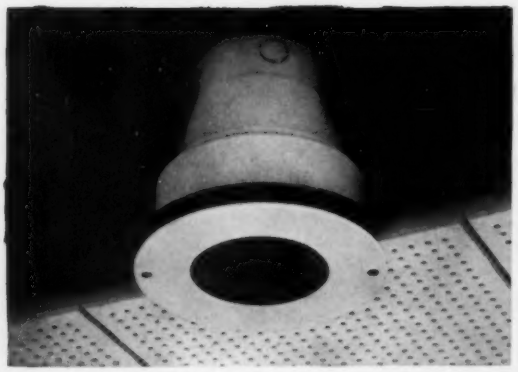
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3343 West 106th Street, Cleveland, Ohio.
(In Canada write to 80 Ward Street, Toronto)

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☐ Arrange for brief demonstration of SelecTemp room unit, in actual operation, in our office.

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LAMP COST *at one-third of other units*

Silver-Dot units use low cost silvered bowl lamps. The lamp renewal cost for equivalent burning hours is approximately ⅓ that of equipment using reflectorized lamps. In addition, the labor cost of replacement is reduced because all Silver-Dot units can be relamped with pole type lamp changers.

POWER COST *at two-thirds of other units*

Many recessed downlights are designed for 150W lamps. Silver-Dot 100 Watt units therefore require just ⅔ as much electricity.

LIGHT OUTPUT *of three times other units*

Silver-Dot line units will provide up to 3 times as many foot-candles as other units of similar application. This impressive increase in illumination is more precisely controlled with less objectionable glare from the unit itself.

ADAPTOR TYPE SILVER-SPOT

Designed for use in any porcelain receptacle or swivel fitting as an effective and inexpensive way of providing supplementary or special effect lighting. Colored light available with interchangeable color reflectors



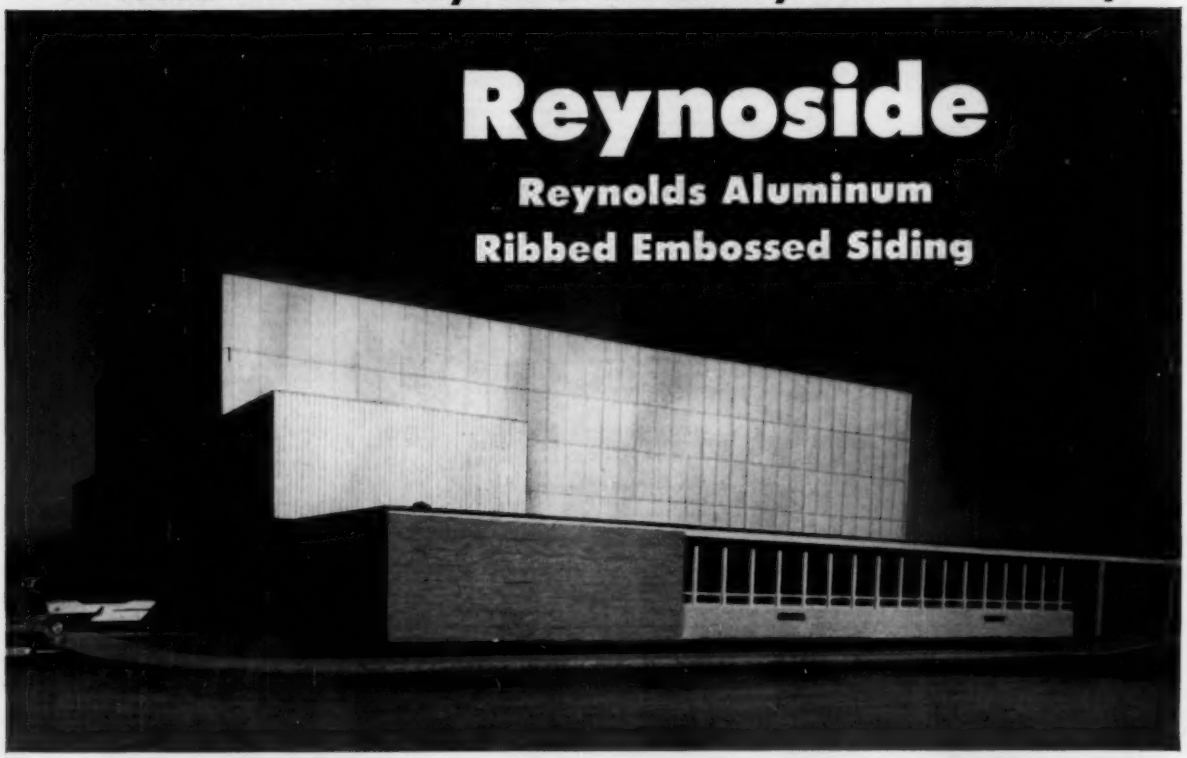


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SILVER-DOT OPERATING COST COMPARATOR

Provides relative operating cost (Lamp renewals and electricity only) per lumen delivered for 1000 hours of operation for several types of downlights tested under identical conditions. Send request on letterhead to

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A SILVRAY ASSOCIATED COMPANY
BOUND BROOK • NEW JERSEY

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Architect:
Edgar A. Stubenrauch & Associates
Sheboygan, Wisconsin

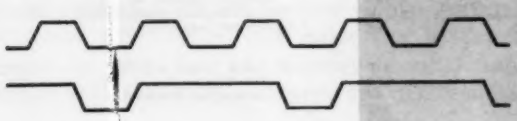
General Contractor:
Palisades Construction Co.
Appleton, Wisconsin

Materials:
Reynoside* 8" Rib (.051 thickness) with 1½" glass fiber insulation and back-up sheet of .032" flat-embossed Reynolds Aluminum.

How to achieve efficiency and beauty economically is a lesson well taught by this magnificent high school...a lesson that applies to all modern industrial building. Economy starts with the rapid, low-cost erection of the wall. Not merely beautiful, its two highly heat-reflective aluminum surfaces combine with glass fiber insulation between to assure significant winter fuel savings as well as cooler classrooms in hot weather. Aluminum slashes maintenance costs, too. Rustproof and highly corrosion-resistant, it withstands weather and time without painting...ever. Thus low applied cost is paired with low upkeep for all-around economy!

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See "Circus Boy", Sundays, NBC-TV. Watch for Reynolds on "Disneyland", ABC-TV Network.



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BUILDING PRODUCTS

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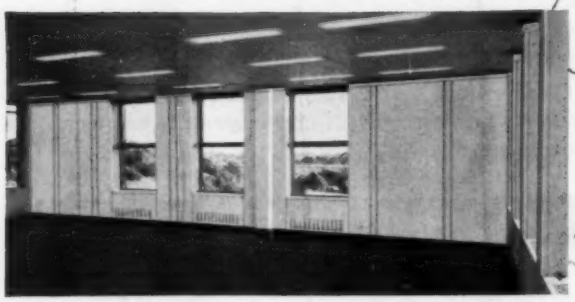
There are clean, space-saving Milcor Wall Units for every modern interior. They have built-in window trim and integral enclosures for convectors, radiators, and air-conditioning equipment.

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A sales engineer from our nearest branch can help you solve problems in this specialized field.

Consult the Milcor Metal Trim Catalog in Sweet's (Section 12a/InL) — or write for your copy. Ask for Catalog 102.

MILCOR® WALL UNITS



Matching wainscot panels are included with Milcor Type "B" Standard Wall Unit.



Milcor Wall Unit installation in Prudential Building, Minneapolis, Minn.

INLAND STEEL PRODUCTS COMPANY

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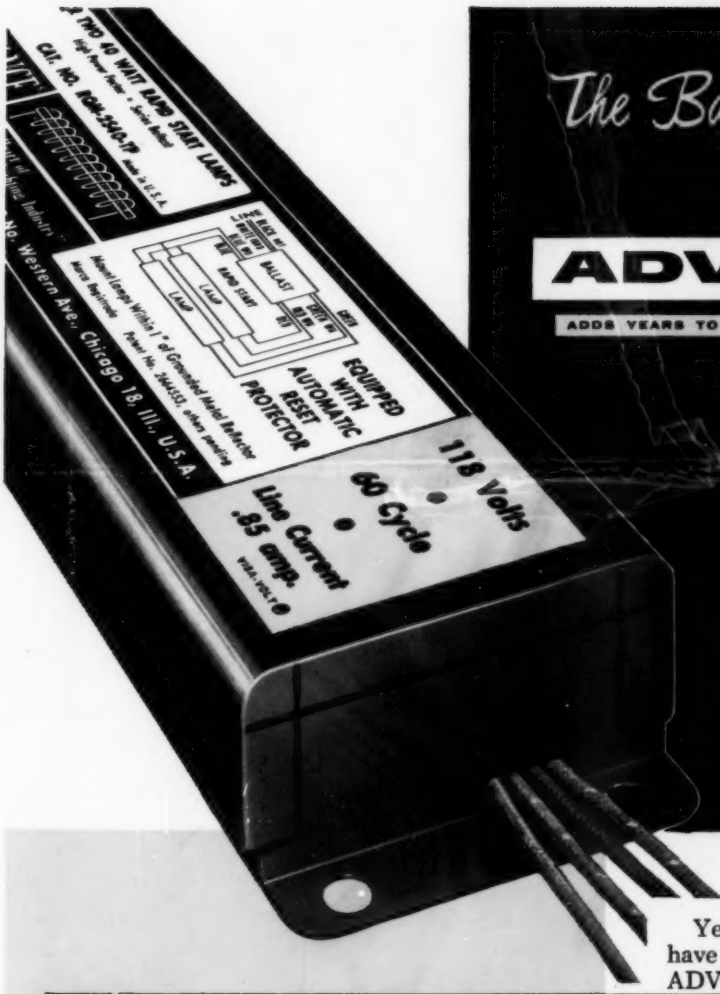
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The Ballast That Thinks!

ADVAN guard

ADDS YEARS TO BALLAST LIFE

BEGINS A NEW ERA IN FLUORESCENT LIGHTING...



105°C	10—12 YEARS
115°C	5—6 YEARS
125°C	2½—3 YEARS
135°C	1¼—1½ YEARS

Full ballast life depends on maintaining normal internal operating temperature of 105°C. For each 10° C. increase in temperature ballast life will be cut in half. ADVAN-guard prevents abnormal operating temperatures and assures full rated ballast life.

Years of diligent research and testing have resulted in the development of ADVAN-guard . . . the first major development in fluorescent lamp ballast design since the introduction of the fluorescent lamp.

ADVAN-guard . . . a thermally actuated automatic reclosing protective device, adds years to ballast life by preventing ballast operation at abnormal temperatures. ADVAN-guard is sensitive to voltage and current as well as temperature and protects against excessive voltage supply . . . internal ballast short circuiting . . . inadequate lamp maintenance . . . improper fixture application and eliminates the need for individual fixture fusing.

To assure maximum protection for fluorescent lighting installations, provide ADVAN-guard Fluorescent Lamp Ballasts. Write for detailed literature.

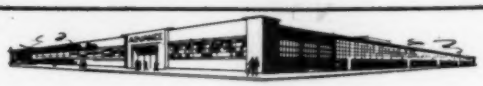
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The Heart of the Lighting Industry



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To see nighttime New York City from Empire State Building Observatories is an experience that has no parallel anywhere on the globe

IN AT LEAST ONE RESPECT

WORLD'S TALLEST BUILDING

HAS PRACTICALLY NO PROBLEMS

• In his address before the New York Chapter of the American Society of Sanitary Engineering, Mr. Donald Gibson, Staff Engineer of the Empire State Building, emphasized the importance of installing mechanical equipment which rates high in trouble-free operation through many years of service. As an example he mentioned that *Sloan Flush Valves have caused practically no maintenance problems since the opening of this fabulous building nearly 25 years ago.*

More than 15 hundred of these flush valves were installed to serve 25 thousand tenants on 102 floors which provide 2 million square feet of rentable area. Over 15 million persons from every state in the nation and nearly all foreign countries have visited the observatories on the 86th and 102nd floors, both open every day and until midnight every night.

Whether the use of sanitary equipment is normal or is recurring days and nights, the performance, endurance and low-cost maintenance of the flush valves are of utmost importance. On all three of these essentials, Sloan Flush Valves have earned and held an unequalled reputation through over 50 years. As the Empire State Building "tops them all," so do SLOAN *Flush* VALVES occupy highest position in their field.

SLOAN *Flush* VALVES

FAMOUS FOR EFFICIENCY, DURABILITY, ECONOMY

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